

Urology slides

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Objectives

- Be familiar with different radiological images regarding .common urological cases
- Be able to diagnose and treat common urological . emergencies
- Learn the indications and contraindications of urinary .catheters and stents

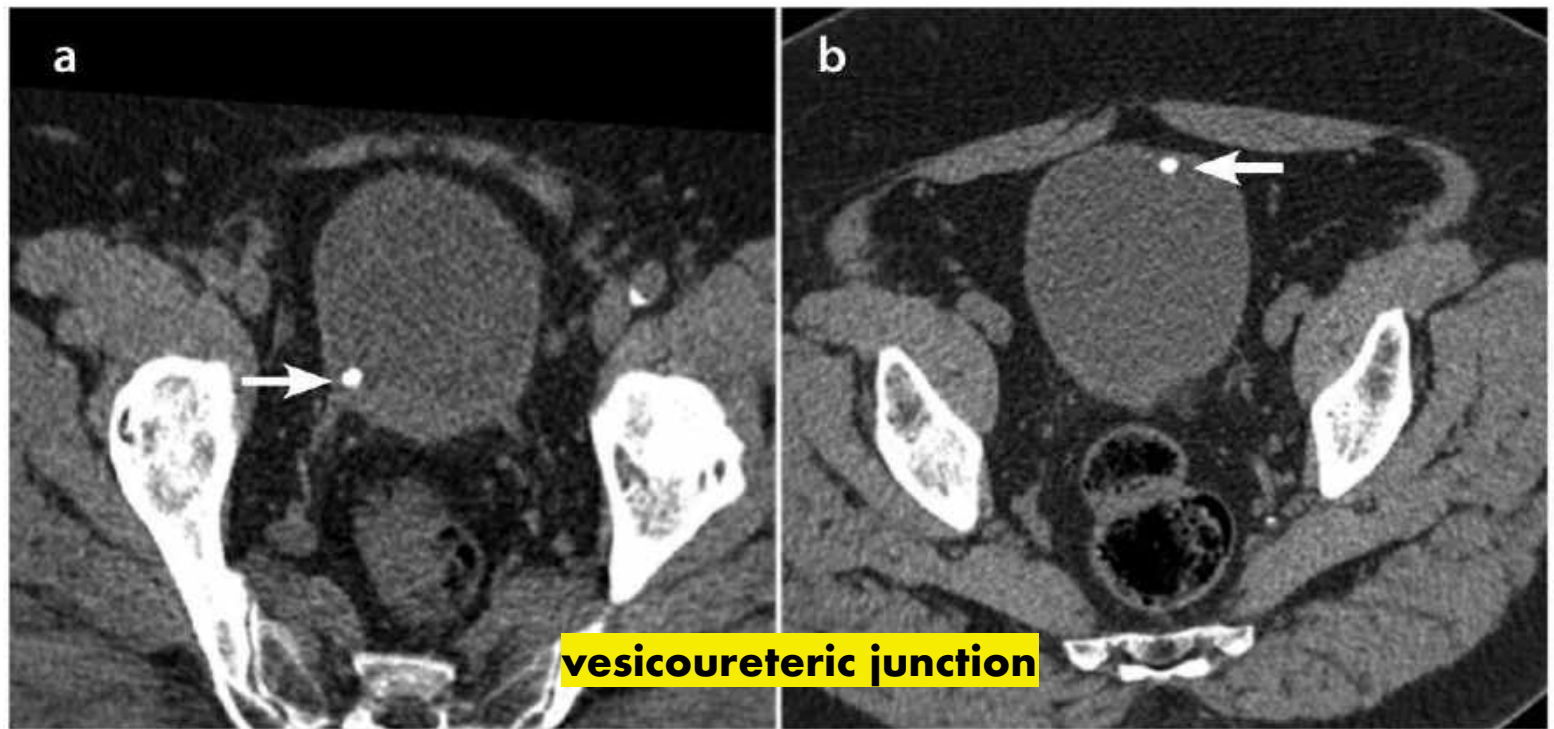


Figure 2.7 Axial non-contrast computed tomography. (a) In a supine position with a stone sitting at the right vesicoureteric junction (arrow). This is shown to have actually passed into the bladder on the prone image (b) performed at the same time (arrow).

CT: multiple x ray (slides) give 3D image

CT	MRI
ionizing	non ionizing
better white color well define	better not well define
usually for calcification (renal stone)	usually not for calcification

CT :- ① axial

② sagittal → Right + Left

③ coronal → anterior + posterior

Stone in vesico ^{VUJ} ureteric junction → need treatment

Stone in bladder → pass with urine

how to differentiate between stone in VUJ and bladder?

CT in supine → CT in prone

① axial CT bladder stone

Hounsfield unit (HU) :- Hounsfield units (HU) density in CT

Bone = white = +1000

Air = dark = -1000

Fluid = 0

Fat = -100 or -200

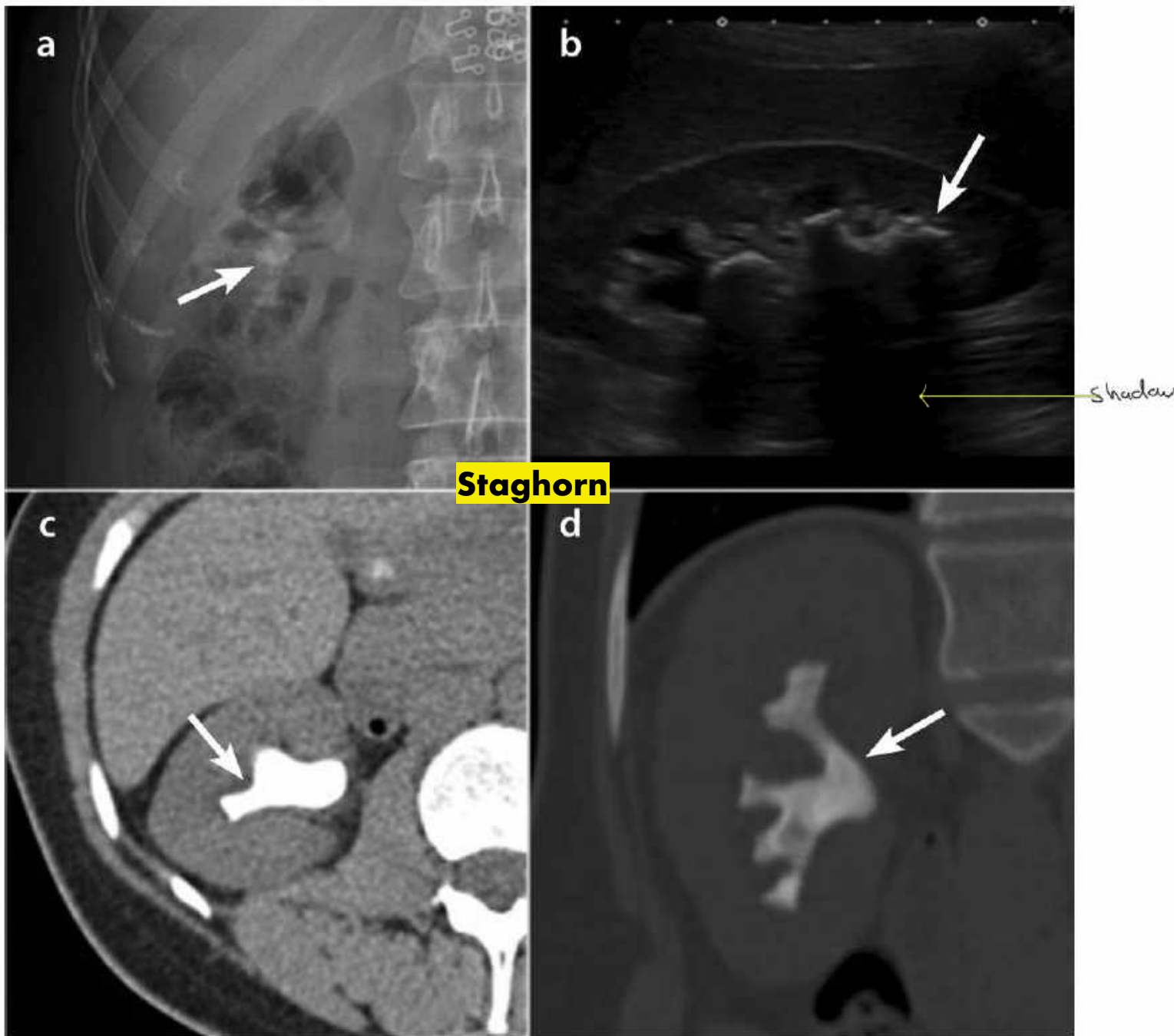


Figure 2.9 A large right staghorn calculus is somewhat obscured by bowel gas on a plain abdominal X-ray (a). It is clearly seen on longitudinal ultrasound (b) with classical posterior acoustic shadowing and mild dilatation of the upper pole calyx. The staghorn calculus is clearly seen on axial non-contrast computed tomography (c) and coronal reconstruction (d).

Ⓐ renal pelvis stone

X-ray → radio density (Ca excrete, Ca phosphate, struvite, cystine)
radio lucent (uric acid, Zanthin, indinavir)
not seen in X-ray

if we can not see stone in X-ray we can see them in CT except indinavir (ant HIV drug subtle), pure matrix stone (gelatin like)

Ⓑ US Kidney stone

white = echogenic or hyperechoic = renal stone = acoustic shadow
black = anechoic or hypoechoic

Ⓒ CT Stone in Kidney

Ⓓ CT Stone in Kidney

upper calyx
middle calyx
lower calyx
staghorn stone consist of struvite → infection stone
magnesium ammonium phosphate

management:-

- open surgery
- laparoscopic
- PCNL (percutaneous nephrolithotomy) → more than 2cm
- ESWL (extracorporeal shock wave lithotripsy) → small size less than 1.5-2 cm
shock wave break to fragmentation of stone
- URS (ureteroscopy)
from urinary bladder
→ ureter then to kidney



Stone



Figure 2.12 (a) and (b) Smaller urinary tract calculi.

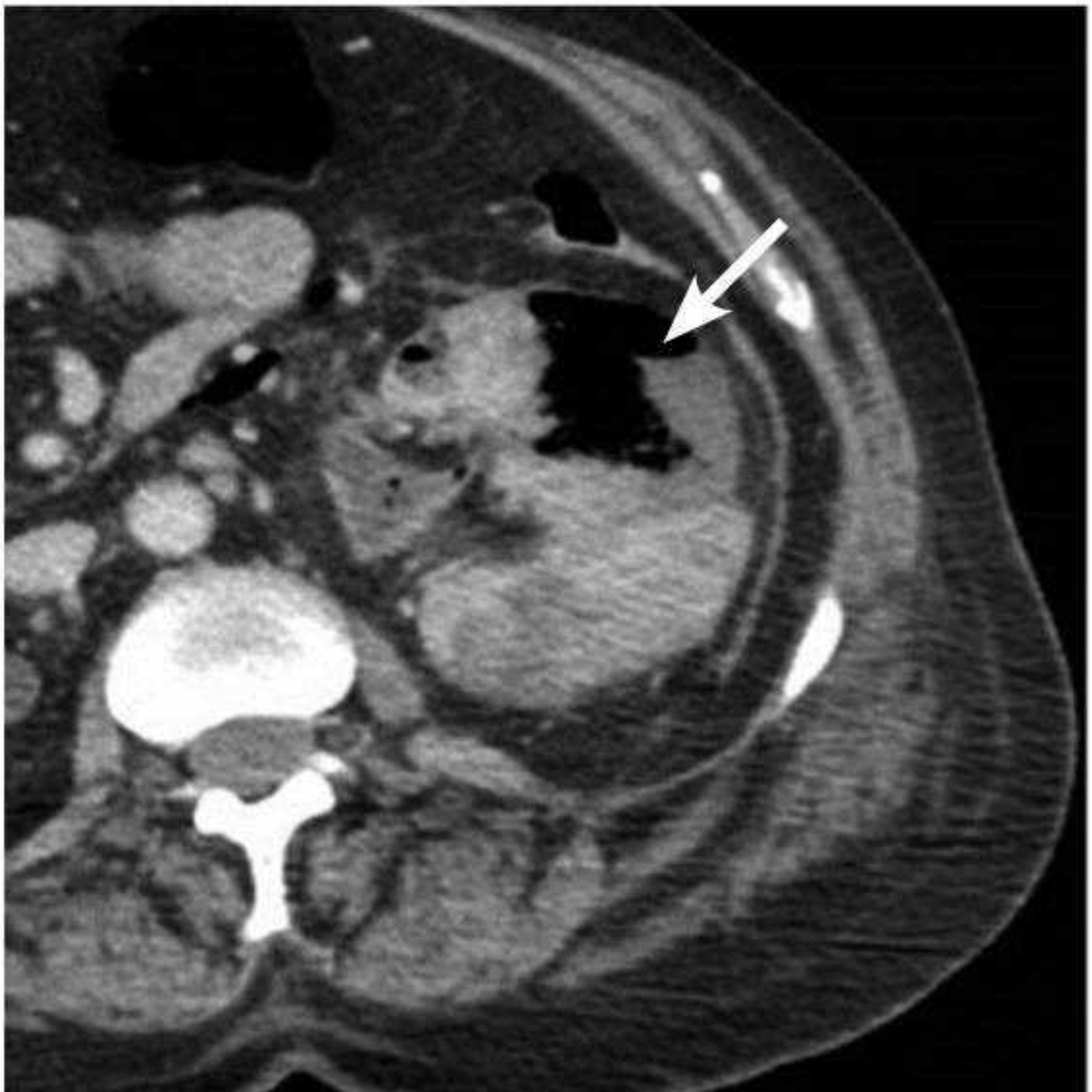


Figure 2.14 Axial portal phase computed tomography image of the left kidney showing emphysematous pyelonephritis with a thick enhancing renal pelvis containing gas along with a cortical gas-containing abscess (arrow).

2.14

CT scan air in kidney

air in kidney abnormal due to:-

- ① trauma
- ② fistula from bowel
- ③ surgery PCN
- ④ most common infection by gas forming organism which called **emphysematous pyelonephritis** which is more severe form of pyelonephritis usually in **DM**

treatment of it:-

- medically
- nephrectomy if not response to medical treatment

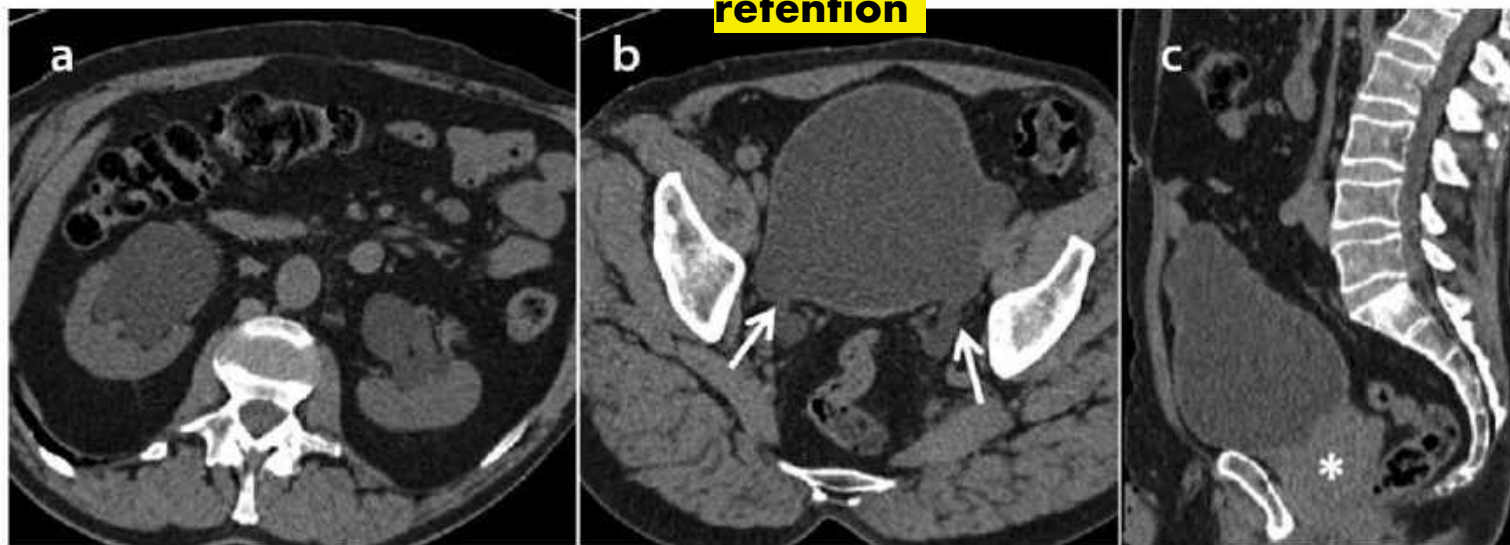


Figure 3.3 A male patient presenting with urinary retention and acute kidney injury. Axial non-contrast computed tomography (CT) images (a) of the kidneys showing bilateral hydronephrosis, and (b) of a full bladder with dilated distal ureters (white arrows) with widely patent vesicoureteric junctions; (c) sagittal CT image showing a large-volume bladder extending nearly up to the umbilicus due to a large prostate (asterisk).

- | | | | |
|---|--|-------------|-------------------------------------|
| Ⓐ | CT hydronephrosis (bilateral dilated pelvis) | اجز و اطفال | diagnosis BPH due to hydronephrosis |
| Ⓑ | CT hydroureter (dilated ureter) | اجز و اطفال | |
| Ⓒ | CT BPH (enlargement in bladder) | اجز و اطفال | |

dilation due obstruction that may due to:-

- BPH
- ureteral stricture
- ureteral stone
- bladder tumor
- cervical tumor

normal size of prostate 20-25g

sign and symptoms of BPH:-

- weak stream
- intermittent
- straining
- urgency
- urgency

management:-

- ① Most response to medical treatment ^{First line} alpha blocker (cause in bladder neck and prostate) relaxation occurs the dilation
alpha 1A in prostate (tamsulosin, silodosin)
No selective to alpha 1A (doxazosin, alfuzosin, terazosin)
- ② androgen blocker (if very enlarge) 5 alpha reductase inhibitor (finasteride)
more than 4
- ③ Surgery in - bilateral hydro ureteronephrosis
open or endoscopic
- ↑ urine creatinine
- recurrent bladder stone
- recurrent UTI due BPH
- urine retention



(a) Cystoscope

bladder tumor

most common histologic type
of tumor are transitional cell
Carcinoma (Urothelial Carcinoma)

tumor no muscle invasive → endoscopy

tumor muscle invasive → radical cystectomy

Bladder cancer



Figure 3.5 Cystoscopic view of a solitary bladder cancer (a) and transurethral resection of the bladder tumour with a resectoscope using a wire loop (b).

bladder → cystoscope

ureter → ureteroscope

kidney → nephroscope

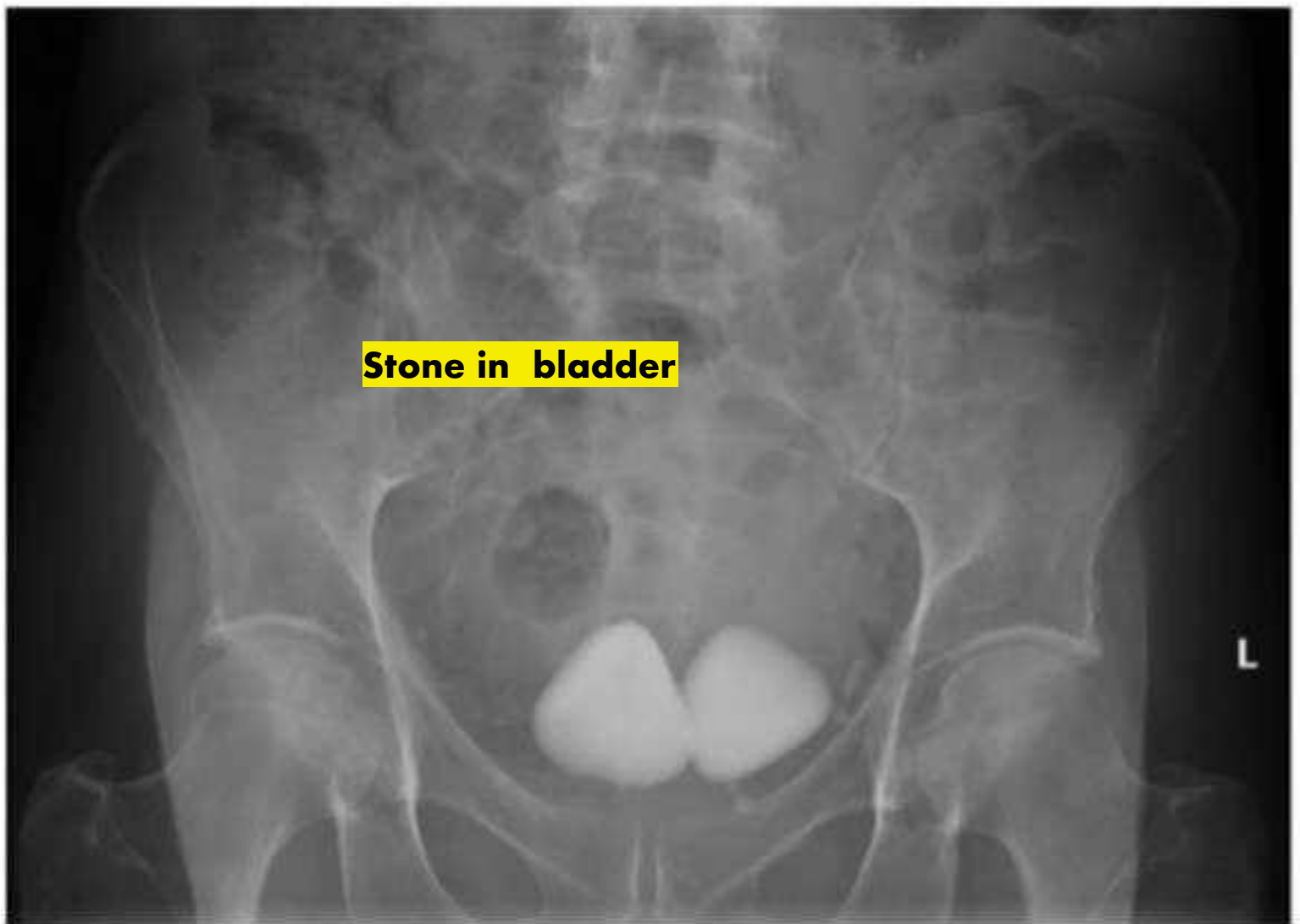
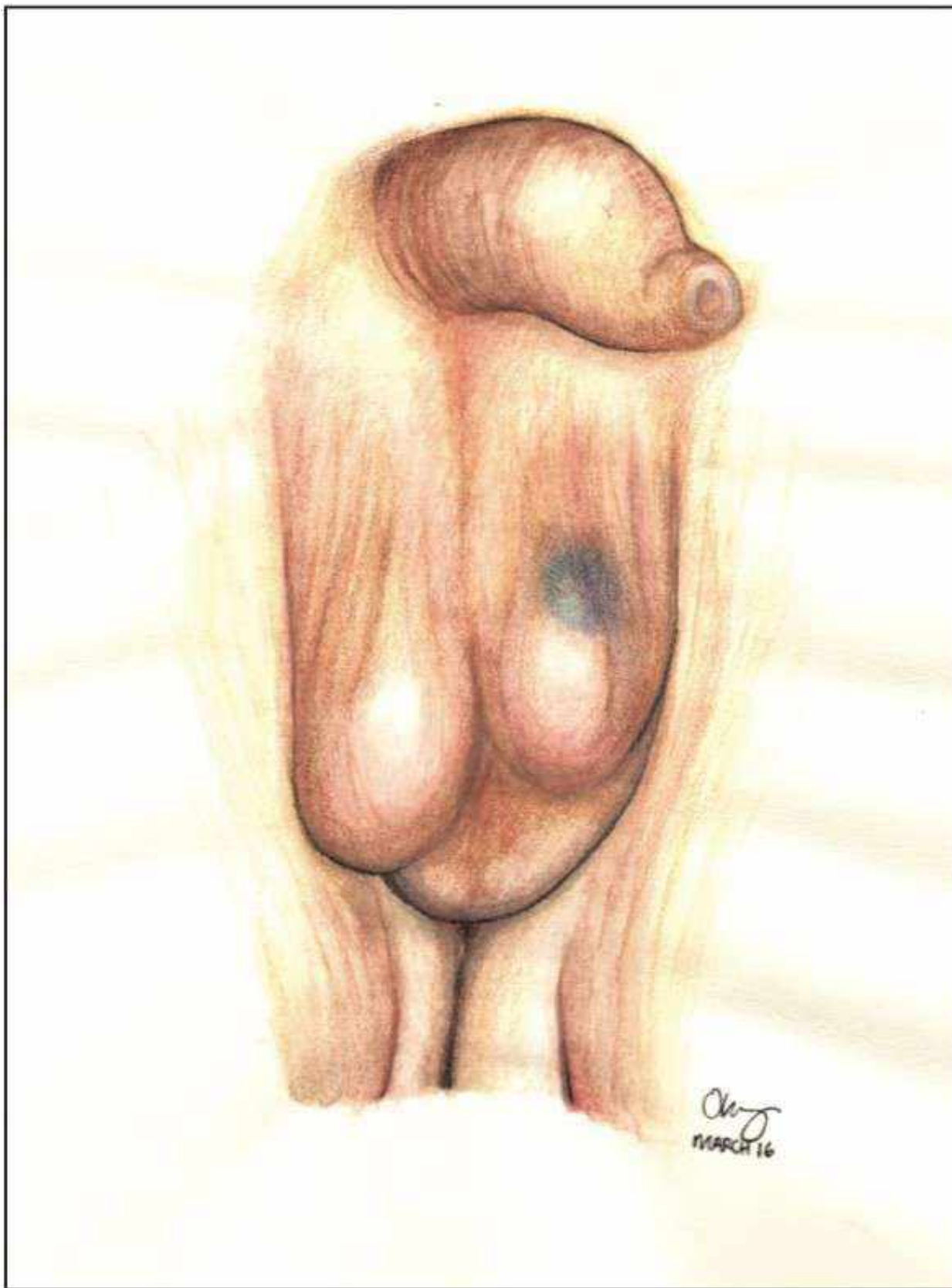


Figure 3.7 A plain pelvic X-ray demonstrating two large stones in the bladder.

X-ray radiopaque bladder stone
may due bladder outlet obstruction (BPH or urethral stricture)



acute scrotal
pain differential
diagnosis:-

- ① testicular torsion
↳ management by surgery
- orchidectomy within 6-8
hours if delay risk of gangrene
- ② epididymo orchitis
- ③ testicular appendix torsion
↳ blue dot sign
↳ management:- conservative by
pain killer

Blue dot sign

Figure 4.2 Blue dot sign. Torted hydrocele of Morgagni of the left hemiscrotum. (Illustration by Dr O. Kenyon.)

aubergine sign



Figure 4.8 A patient about to undergo surgical exploration and repair of a suspected penile fracture exhibits the classical 'aubergine sign'.

Paraphimosis



Figure 4.9 Paraphimosis in a 45-year-old diabetic patient. (Image by Drvgaikwad used under the Creative Commons licence 3.0 (<http://creativecommons.org/licenses/by/3.0>), via Wikimedia Commons. Image cropped by authors.)

↳ physiological in children
↳ pathological in western

↳ management

- ① manual reduction
- ② circumcision
- ③ dorsal slit at 12 clock

Phimosis is defined as the inability to retract the skin (foreskin or prepuce) covering the head (glans) of the penis.

Fournier's gangrene

Paraphimosis is a common urologic emergency that occurs in uncircumcised males when the foreskin becomes trapped behind the corona of the glans penis. This can lead to strangulation of the glans and painful vascular compromise, distal venous engorgement, edema, and even necrosis.

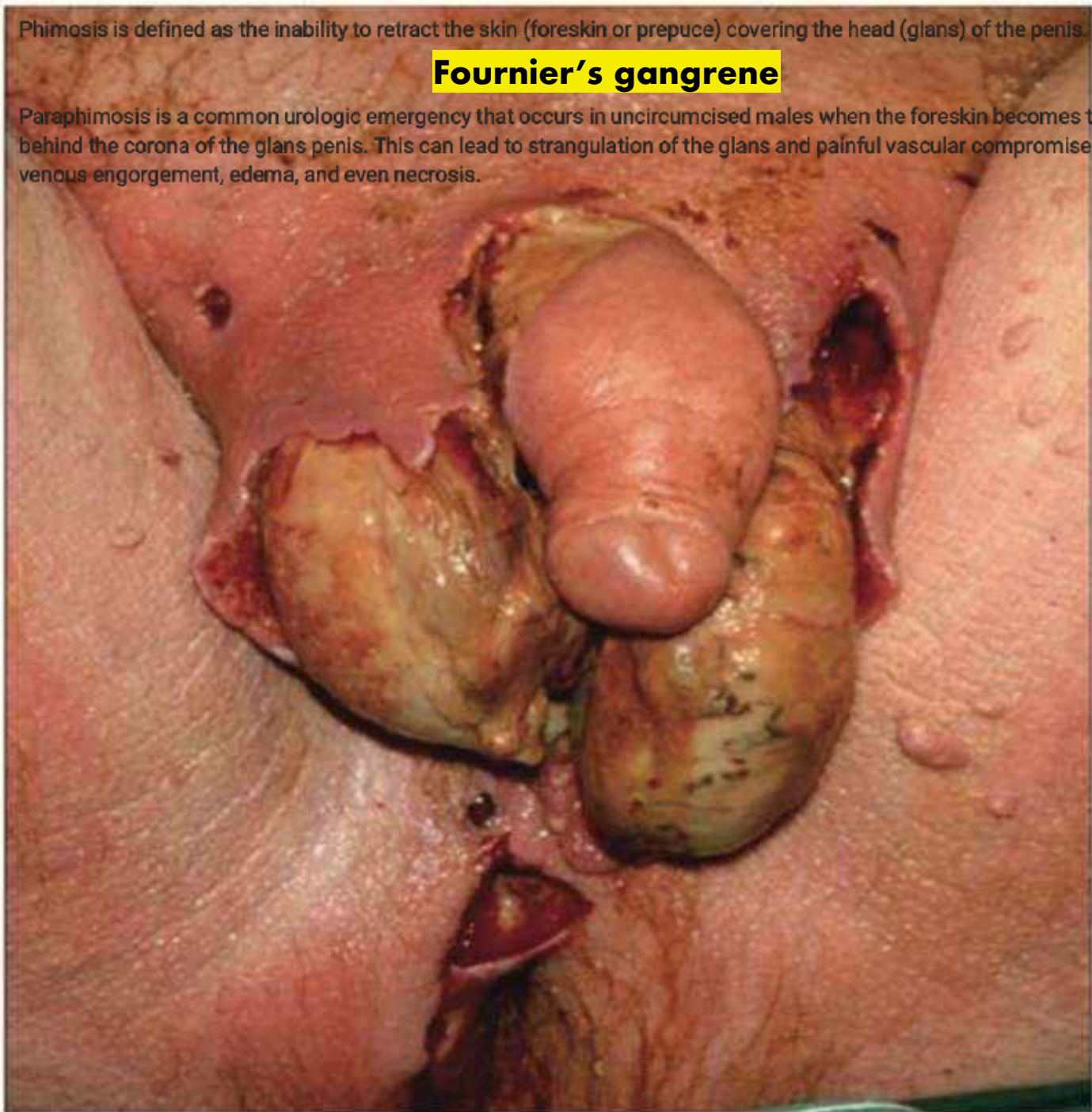


Figure 4.10 Fournier's gangrene after partial debridement. (Image used with permission of Elsevier Ltd. Bullock N, Doble A, Turner W, Cuckow P. *Urology: An Illustrated Colour Text*. Elsevier, Churchill Livingstone, 2007; p138, Fig. 1.)

4.10 emergency

Fournier gangrene :- necrotizing fasciitis due poly microbial infection especially in DM

management :-

- ① debridement
- ② resuscitation
- ③ IV fluid
- ④ IV antibiotic (triple)
- ⑤ debridement

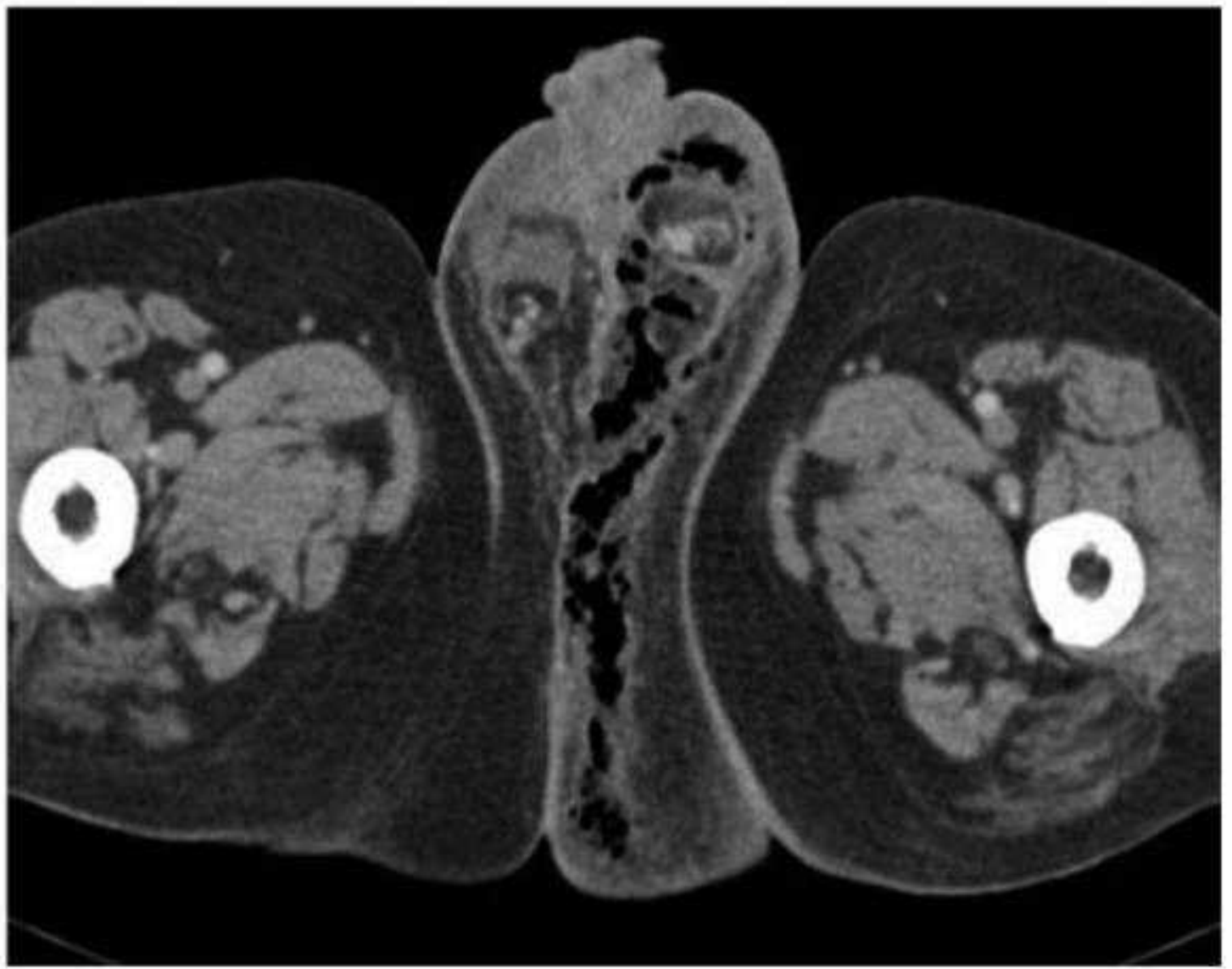
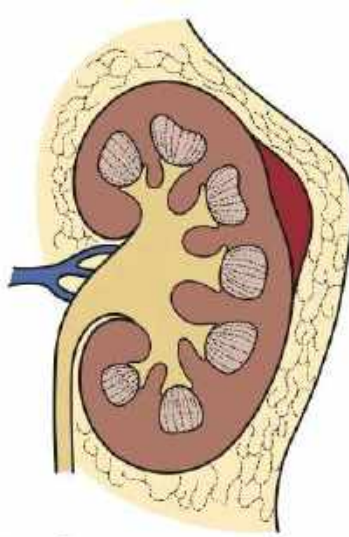


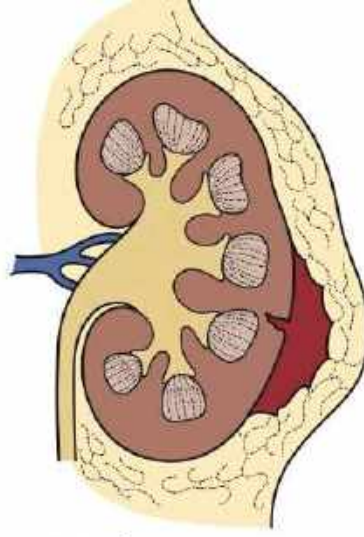
Figure 4.11 Axial computed tomography image showing extensive subcutaneous gas, and mild adjacent inflammatory change in the left perineum and scrotum. Surgical emphysema is a late sign of Fournier's gangrene.

CT air density (infection) Fournier's gangrene



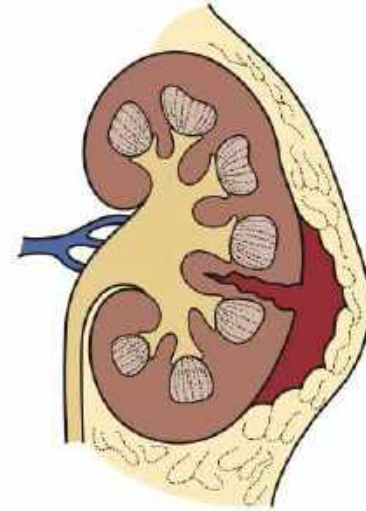
Grade 1

Contusion/bruise
Subcapsular **haematoma**
with an intact capsule
no laceration



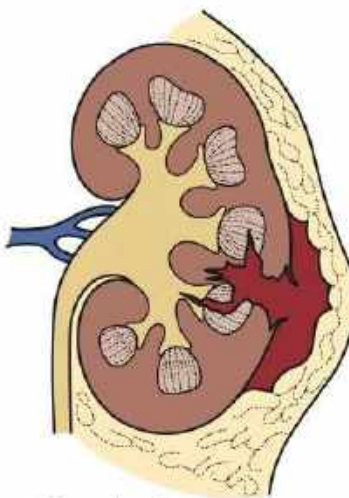
Grade 2

Minor **laceration**-
superficial parenchymal
laceration **<1cm**



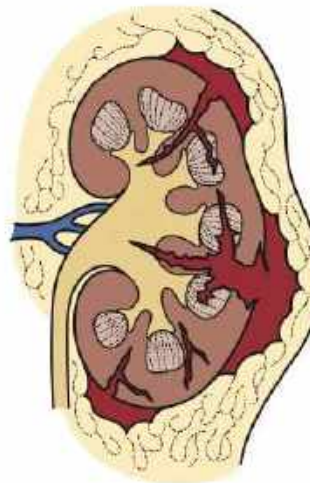
Grade 3

Major **laceration >1cm**
without collecting system
disruption/extravasation



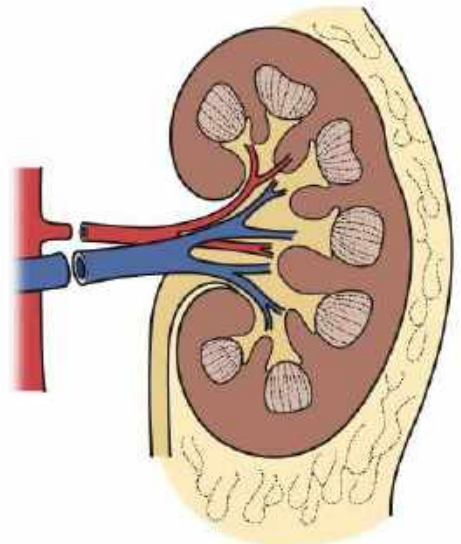
Grade 4

Laceration through the cortex,
medulla and collecting system
Contained renal artery or vein
injury



Grade 5

Completely shattered kidney
or
Complete vascular avulsion



Stage renal injury

Figure 5.1 Grades of renal trauma (American Association for the Surgery of Trauma). Advance one grade for bilateral injuries up to grade 3.

classification depend on CT scan + Contrast
if extravasation of contrast present indicate at least grade IV

Pedicle = renal artery and vein

management

- conservative if vital stable
- Fluid + blood if vital unstable
- exploration debriding + trauma

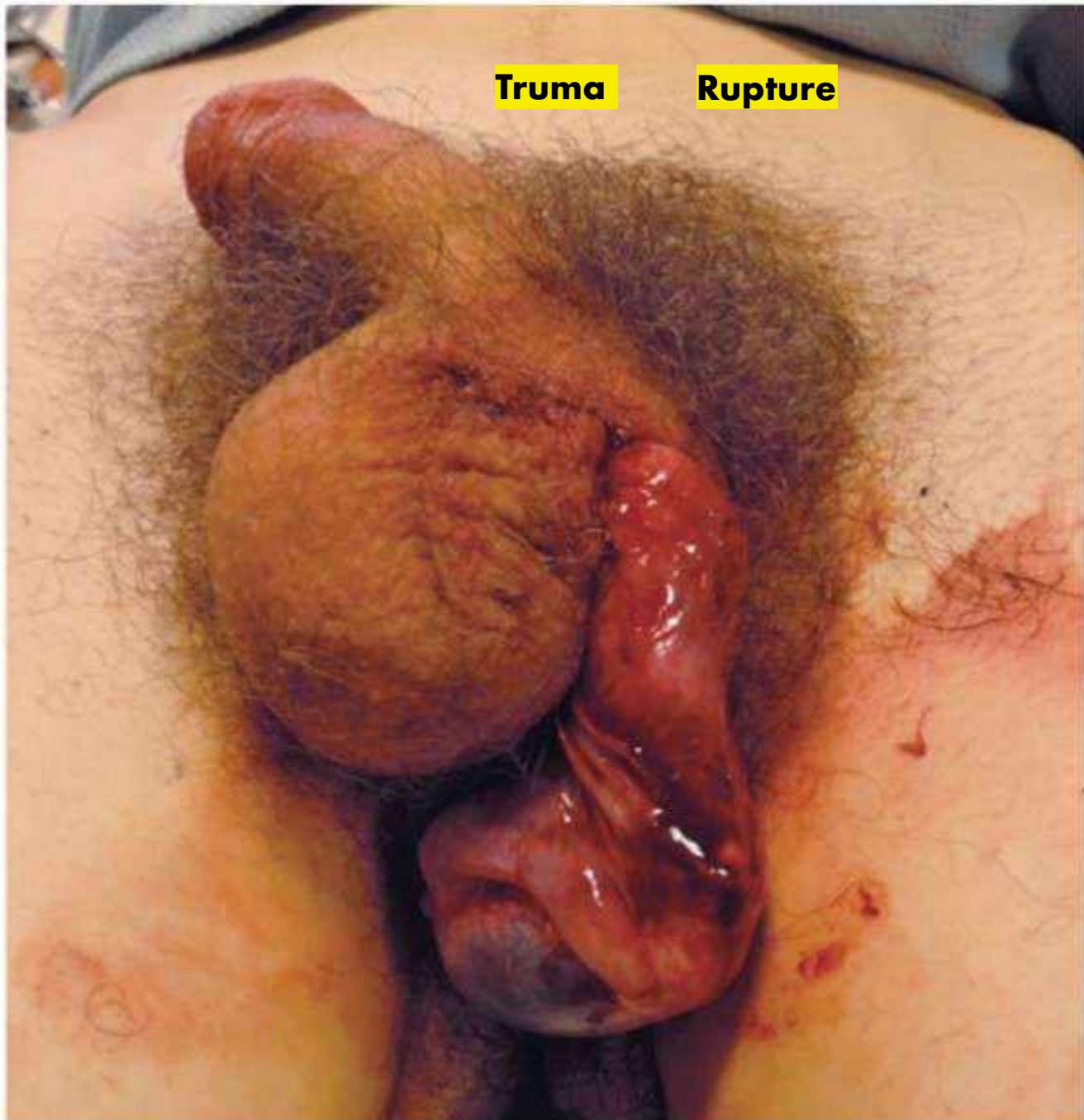
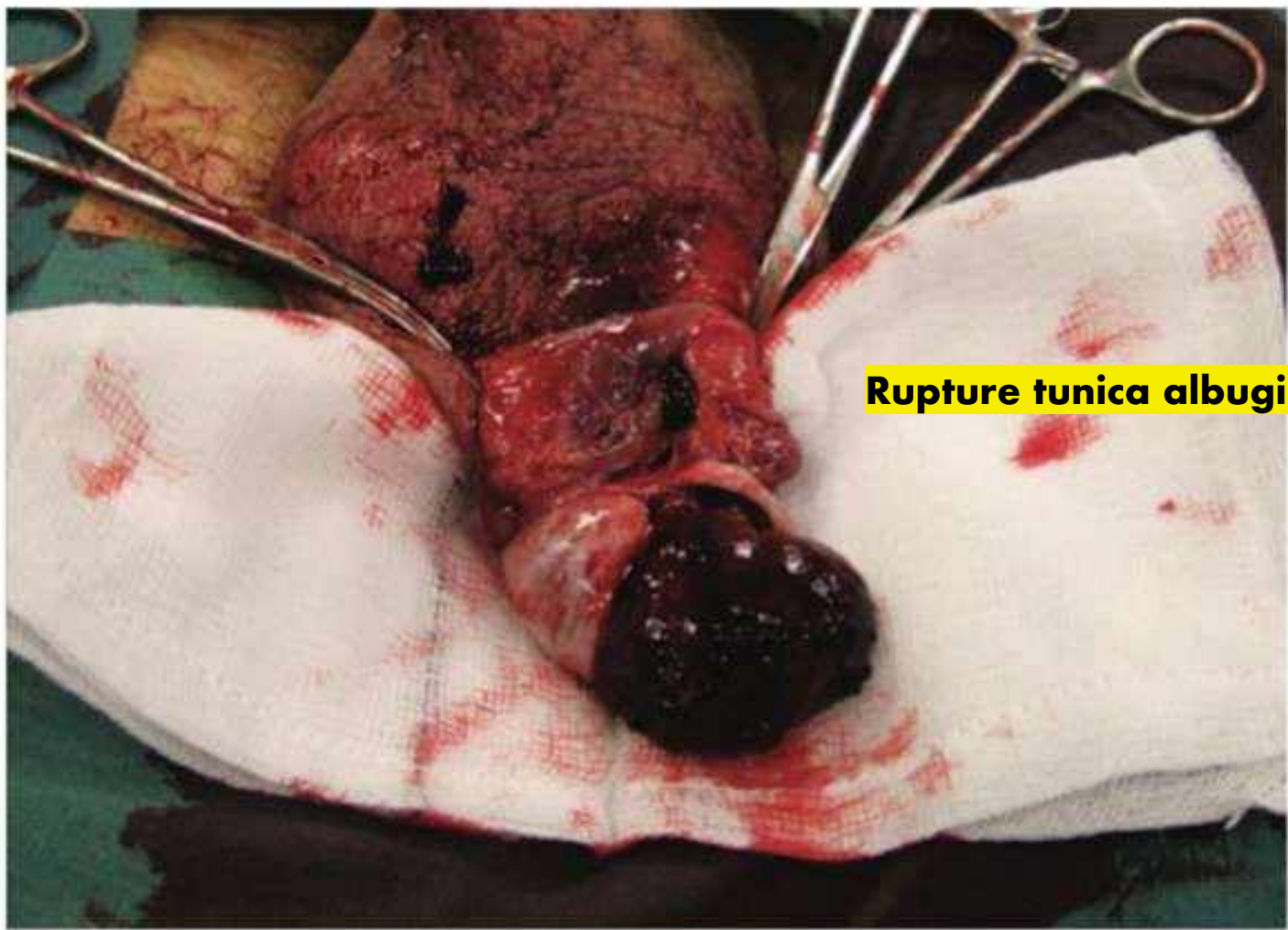


Figure 5.9 Clinical image of a young motorcyclist involved in a road traffic collision. The left testicle has extruded through the ruptured scrotum but remains viable. An unusual injury.

(over (tunica albuginea) if intact → no testicular rupture



Rupture tunica albuginea

Figure 5.12 Intra-operative appearances of testicular rupture: the tunica vaginalis has been everted to show the ruptured tunica albuginea of the testis with haematoma and extruded seminiferous tubules.

laceration in tunica albuginea → testicular rupture
management :- debridement and primary repair



Figure 6.2 Paraphimosis.

if edema present make multiple puncture by needle called
Dundee technique



X-ray JJ stent
or double J stent
Proximal and distal
lobe to fix the stent
at site -
Stent put in:-

- ①
 - ② URS surgery
 - ③ human cause bilateral obstruction in ureters.
- But nephrostomy instead of JJ stent in patients who not B- so it called **percutaneous nephrostomy**

Ureteric Stone Management

- ① Pain killer 1st line NSAID Naproxen
- ② not respond give opioid drug morphine, pethidine
- ③ small size $\leq 5\text{mm}$ may pass spontaneously within 4-6 w.
- ④ medication help passage of stone alpha blocker \rightarrow dilation
- ⑤ immediate intervention for:-
 - large stone and unlikely to pass **10mm** and more
 - Stone in proximal ureter and causing renal obstruction
 - bilateral obstruction (concern about R. ure)
 - Stone with superadded infection lead to pos. cultural pyelogram and JJ stent or nephrostomy

Figure 6.8 Plain abdominal radiograph demonstrating bilateral ureteric JJ stents in normal positions. A coil in the stent should be visible at both ends, corresponding to the renal pelvis and the urinary bladder.



Figure 6.9 (a) Right-sided nephrostomy, with overlying dressings removed viewed from the patient's side; (b) scars on both flanks demonstrate previous nephrostomy sites. Note how posteriorly nephrostomy tubes are often sited, necessitating examination of the back of a patient.

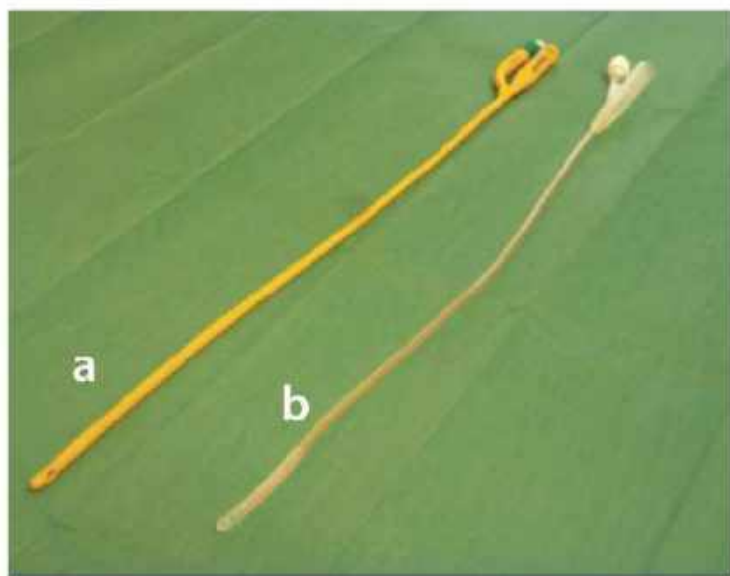


Figure 7.1 Examples of 2-way Foley catheters in coated latex (a) and silicone (b).

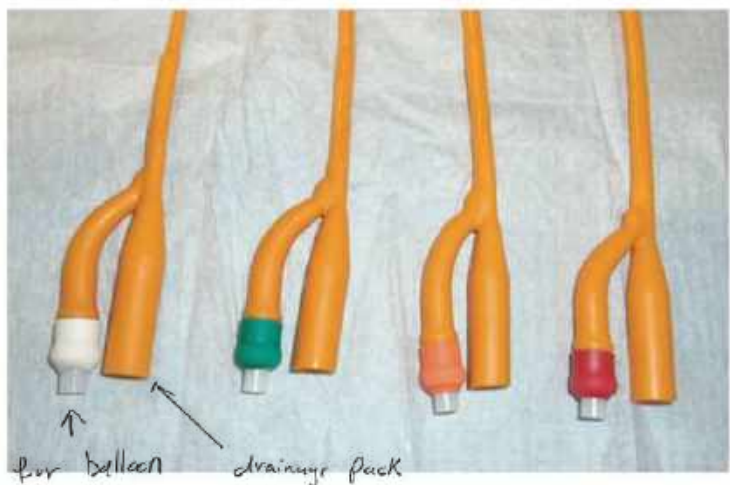


Figure 7.2 2-way Foley catheters demonstrating the colours associated with common sizes. White=12 Fr, green=14 Fr, orange=16 Fr, red=18 Fr.

7.1	Coated Latex	Silicone
	latex	silicone
	2-10 days	4 weeks
	more irritant	less irritant
	flexible	hard

If we can not insert any catheter so inserted it is use suprapubic cystoscope



Figure 7.3 Examples of specialist catheters. (a) Council tip catheter; (b) Tiemann tip catheter; (c) coude tip 3-way catheter; (d) components of a 3-way catheter.

7.3 Continuous bladder wash in :-
 - Surgery in bladder (bladder tumor) during cut by endoscope bleeding will occur and this should be drainage because if remain formation of clot occur leads to obstruction and irritation

indication for urinary catheter :-

① diagnostic indication

- imaging study such as in VUR (give contrast in bladder if contrast reaching to ureter this diagnosis for VUR) this technique called **VCUG (voiding cystourethrogram)**
- Sample collecting in children
- Injury to urinary system to ensure if haematuria present or not

② therapeutic indication

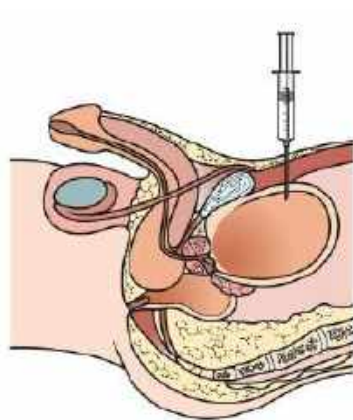
- Urine retention such as in BPH
- Monitoring of urine output such as in ICU Patient
- medication by catheter such as bladder tumor when non invasive to muscle give chemotherapeutic agent



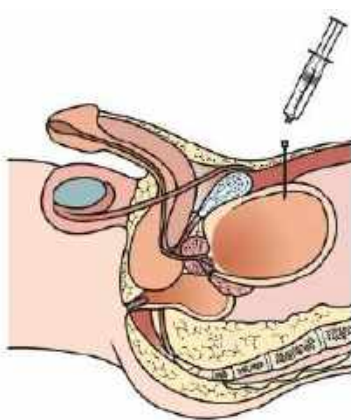
Figure 7.5 An elderly man with a recently placed suprapubic catheter. This catheter and the defunctioning colostomy were placed to help in the management of a complex colovesical fistula and penile abscess.

Complication of Foley Catheter:-

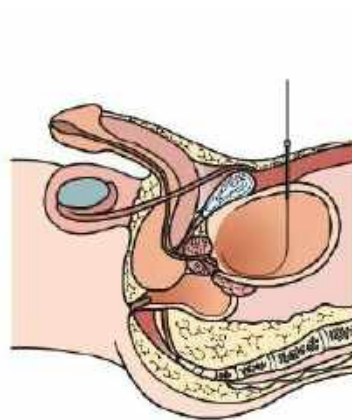
- infection
- injury to urethra
- Long term use cause atrophy in skin of ventral side of penis called Iatrogenic hypospadias → 26 Nov



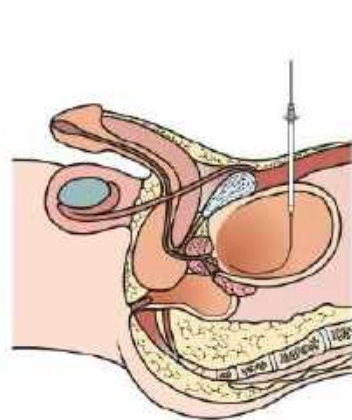
Step 1: Infiltrate the track with LA, aspirate urine



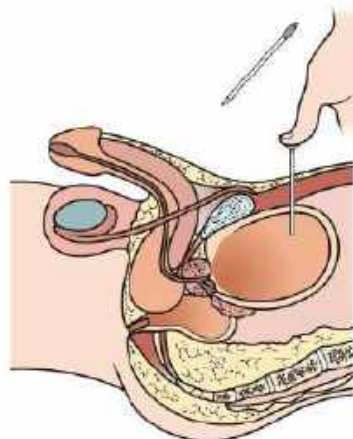
Step 2: Detach the syringe



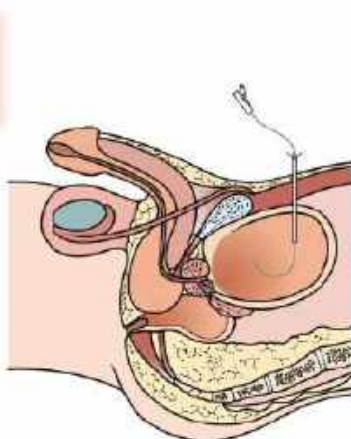
Step 3: Pass the guidewire into the bladder



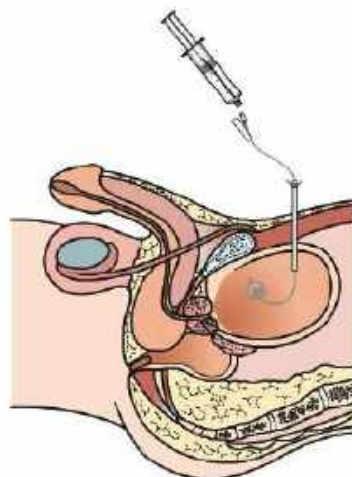
Step 4: Pass the trocar over the guidewire into the bladder



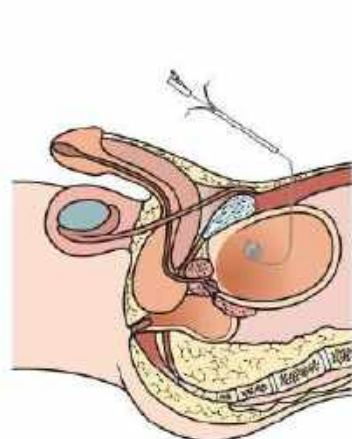
Step 5: Remove the guidewire and inner trocar leaving the outer sheath in the bladder



Step 6: Pass the Foley catheter down the sheath into the bladder



Step 7: Inflate the catheter balloon



Step 8: Split and remove the outer sheath

Figure 7.7 Insertion of Mediplus Ltd. S-Cath™ System. Suprapubic catheterisation with the Seldinger technique. (Images used with permission.)

Latrogenic Hypospadias



Figure 7.9 Iatrogenic hypospadias as a consequence of long-term male urethral catheterisation.

7 years old girl with hx of recurrent attacks of lt flank pain

Hydronephrosis



18 of 54

X-ray with contrast

IVU = intravenous urogram

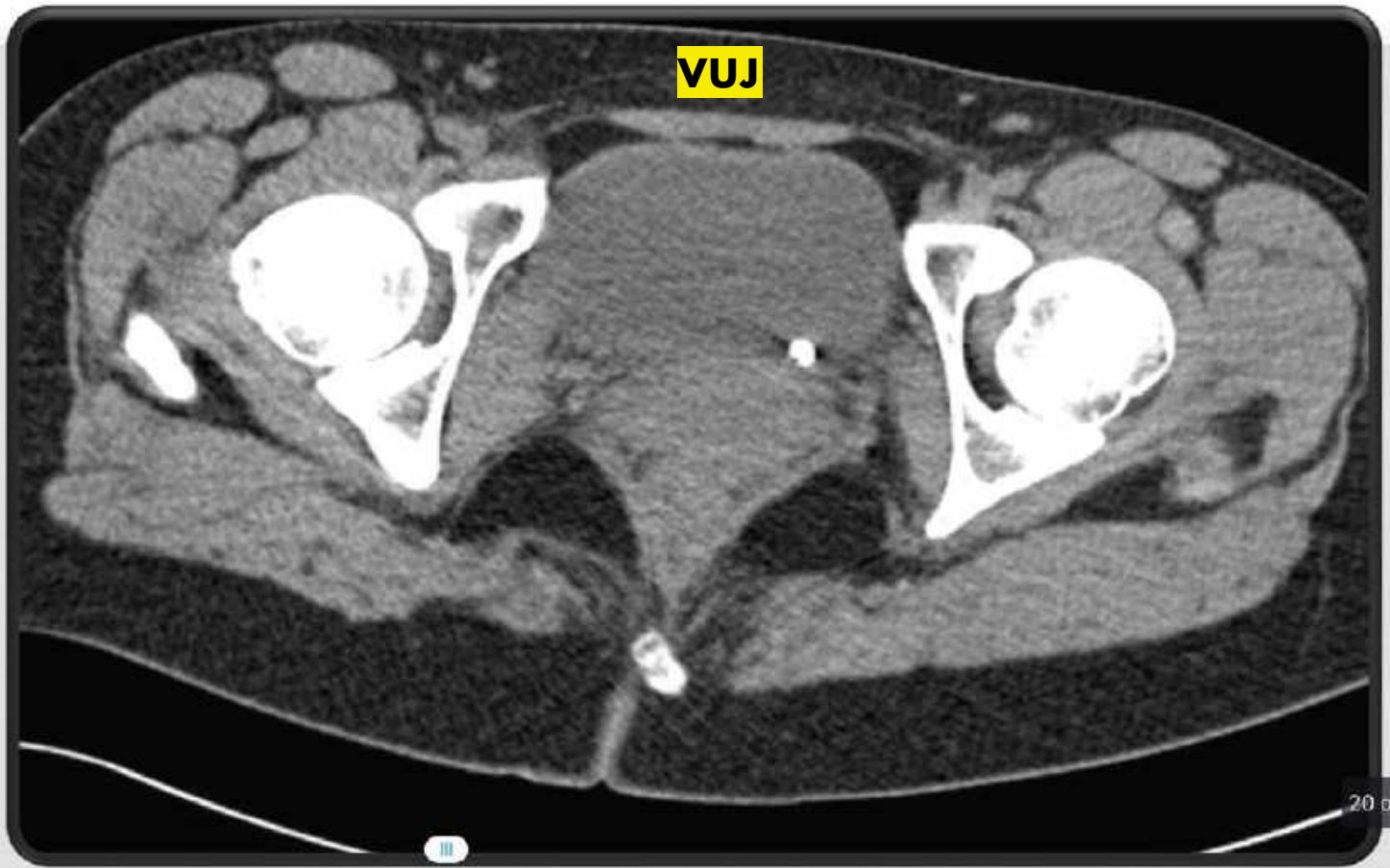
- right kidney normal
- left kidney dilation in pelvis (hydronephrosis)
- ureter not take contrast so there obstruction at level of PUJ (pyeloureteric junction)

diagnosis:- PUJ obstruction

may congenital or acquired
by stone
tumour

- IVU study shows It sided hydronephrosis → pelviureteric junction obstruction.

45 YEARS OLD MAN WITH DYSUREA

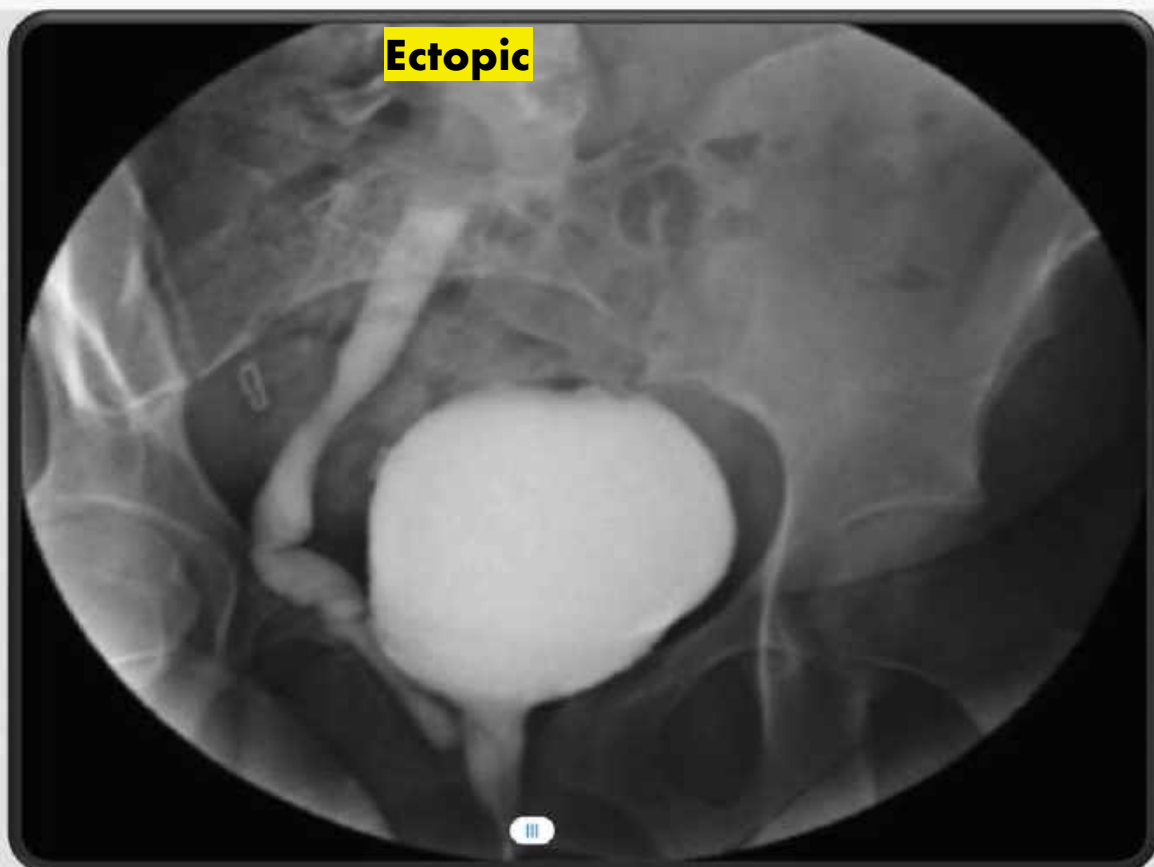


20 of 54

May PUD or bladder stone differentiate between them by changing position

- LT VUJ stone.

6 Y Old Girl With Incontinence



26 of 54

- X-ray with contrast

- VCUG

- VUR in right ureter

- abnormal insertion of ureter in urethra called **ectopic ureter** come as

continuous incontinence female but not occur in male due insertion above the sphincter

male with ectopic ureter come as recurrent epididymitis

- Ectopic insertion of the Rt ureter.

30 years old male with LUTS. (Native CT scan)

1. Definitive diagnosis?

Stone in bladder

2. Treatment?

large stone → open

small stone → endoscopy

suc



63 years old male
smoker present with
hematuria. CT

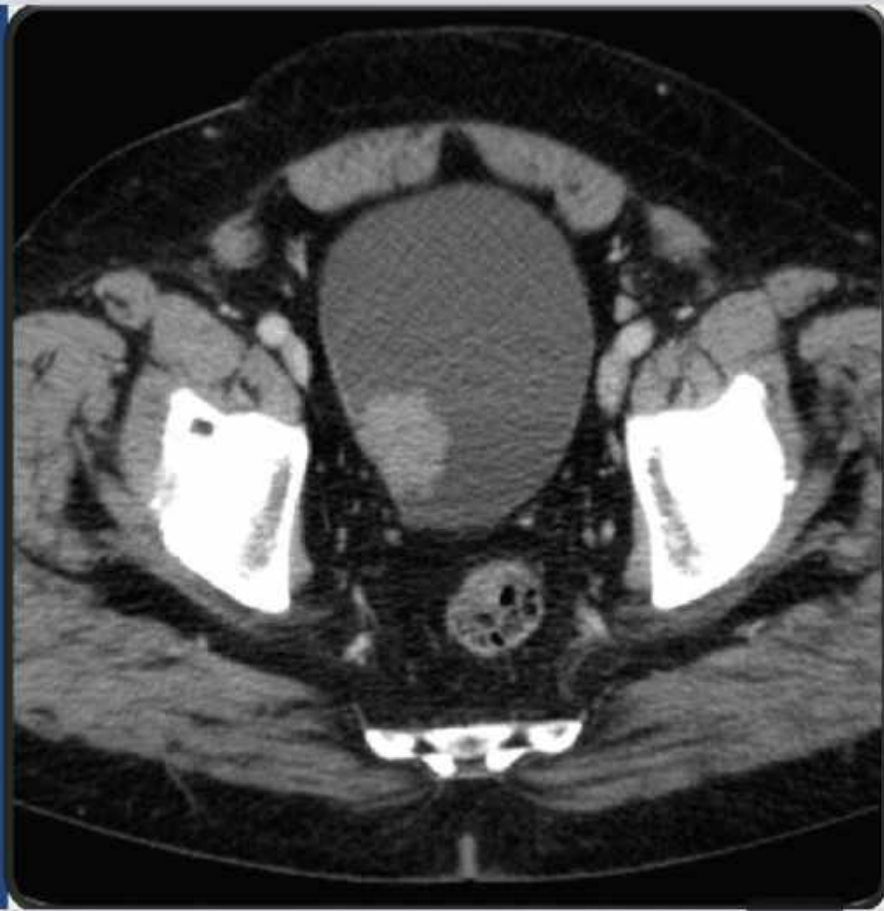
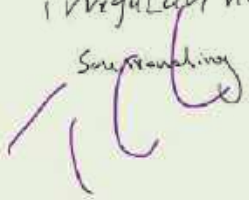
1. Describe the finding?

2. Definitive diagnosis?

Lumbar

irregularly hyperdense compare to

surrounding tissue



60 years old male with BPH?

1. Definitive diagnosis?
2. Treatment?

Bladder Diverticulum

Xray with VCUG



6 years old boy with recurrent UTI.

1. Describe the finding?
2. Definitive diagnosis?

Christmas
tree
neurogenic
bladder



Christmas bladder in neurogenic bladder like:-

- MS
- DM
- spinal cord injury
- Stroke

abnormal emptying

Christmas tree

60 Years Old Diabetic Male Presented With High Grade Fever With Disturbed Consciousness

1- definitive Diagnosis *Perineal gangren before debridement. no sensation*
2- Treatments *admission / IV fluid resuscitation / IV antibiotic / debridement*



Gangren

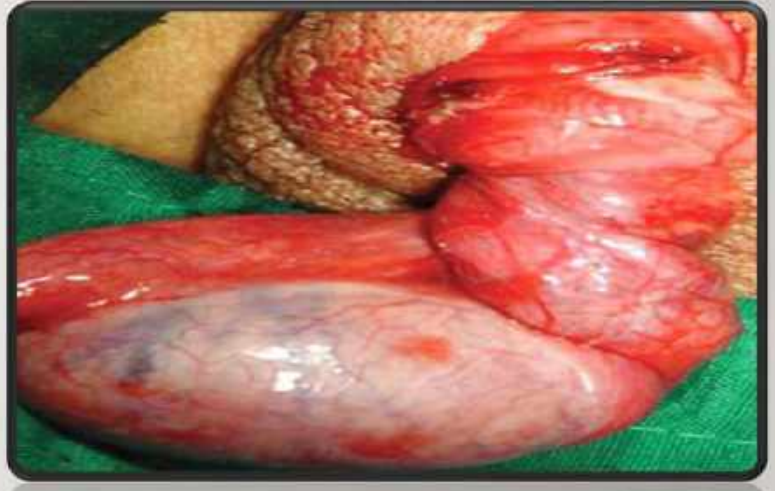
22 years old male presented with severe acute testicular pain...

..

1-definitive diagnosis *testicular torsion*

2-mention the types of this pathology

Torsion



Patient come with:-

- severe pain, constant, sudden onset
- may with nausea and vomiting

in examination:-

- lie higher (horizontal lie)
- severe tender
- absent cremasteric reflex
- Prékob's sign (elevation of testis not a symptom or may ↑ (white in epididymo-orchitis pain ↓)

investigation by doppler

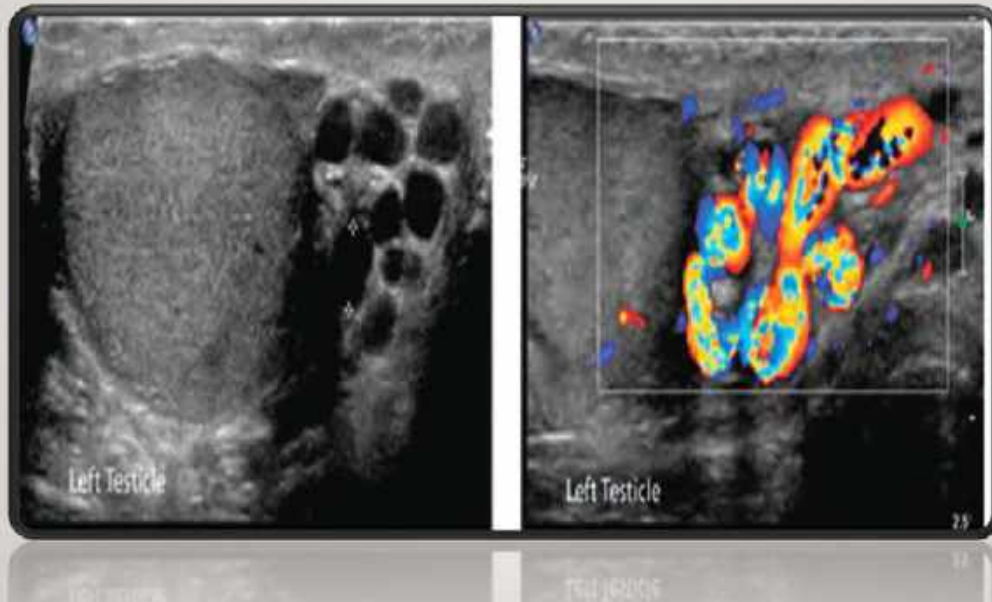
time for intervention 4-6 h

have two types:-

- ① extra vaginalis
testes & tunica vaginalis
will torsion usually occur in children
- ② intra vaginalis
most common only testes will
torsion usually in teen age
14, 15, 16

31 YEARS OLAD MALE WITH INFERTILITY ?

Varicocele



infertility :- inability to conceive after one year of regular unprotected

in male 30-40% due varicocele due dilation of vein
most common in left due left testicular vein end in
left sculp (acute angle + long distance)
while right testicular vein end in IVC (oblique angle)

Varicocele have grades:-

Visible = III

Palpable standing = II

Palpable during Valsalva = I

US = subclinical

not all case need surgery only in :-

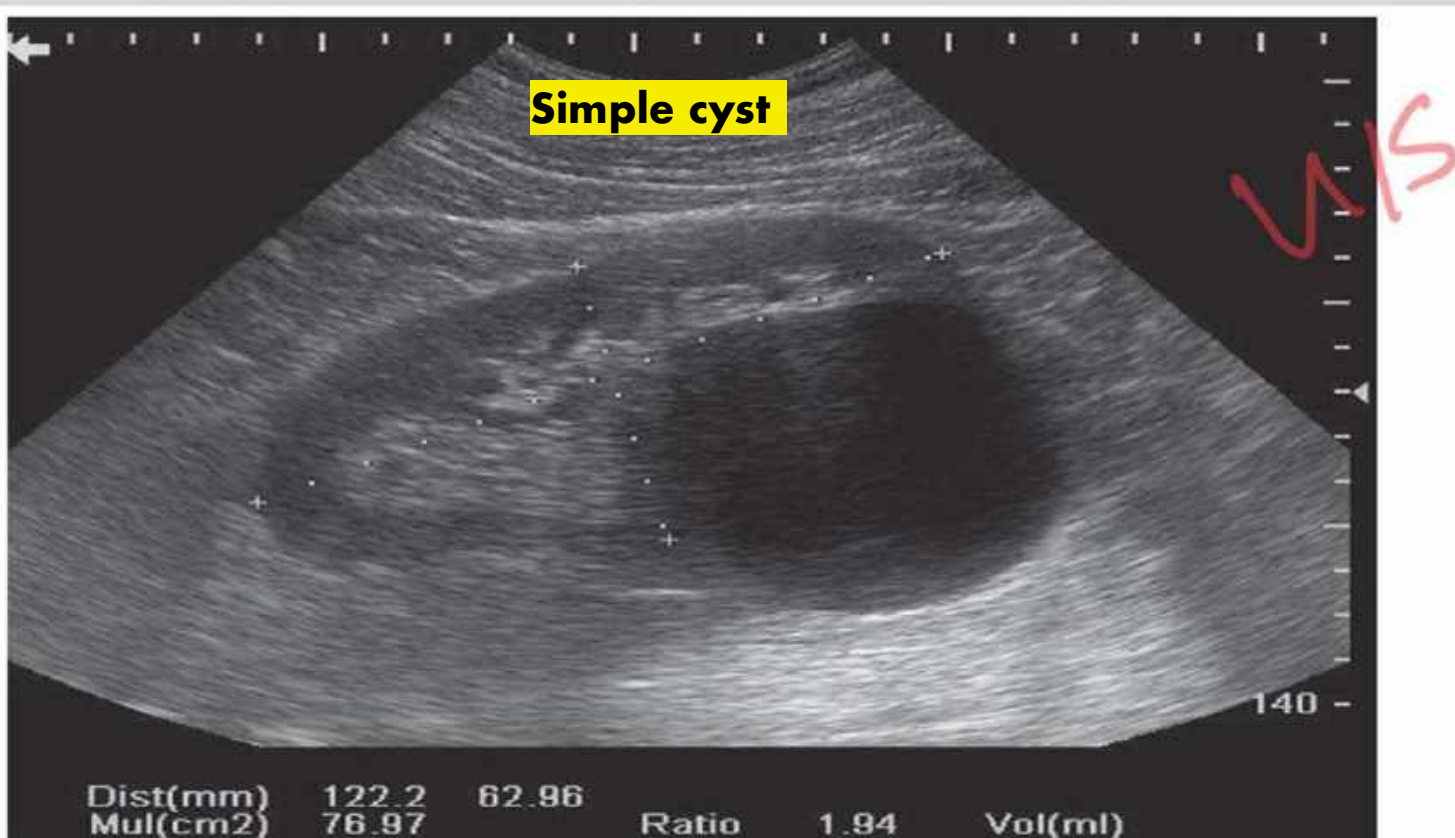
- ① grade I with infertility
- ② Pain
- ③ testicular atrophy

temp. in testes should be 1-2 less than body temp.
in varicocele temp. ↑ so sperms will die.

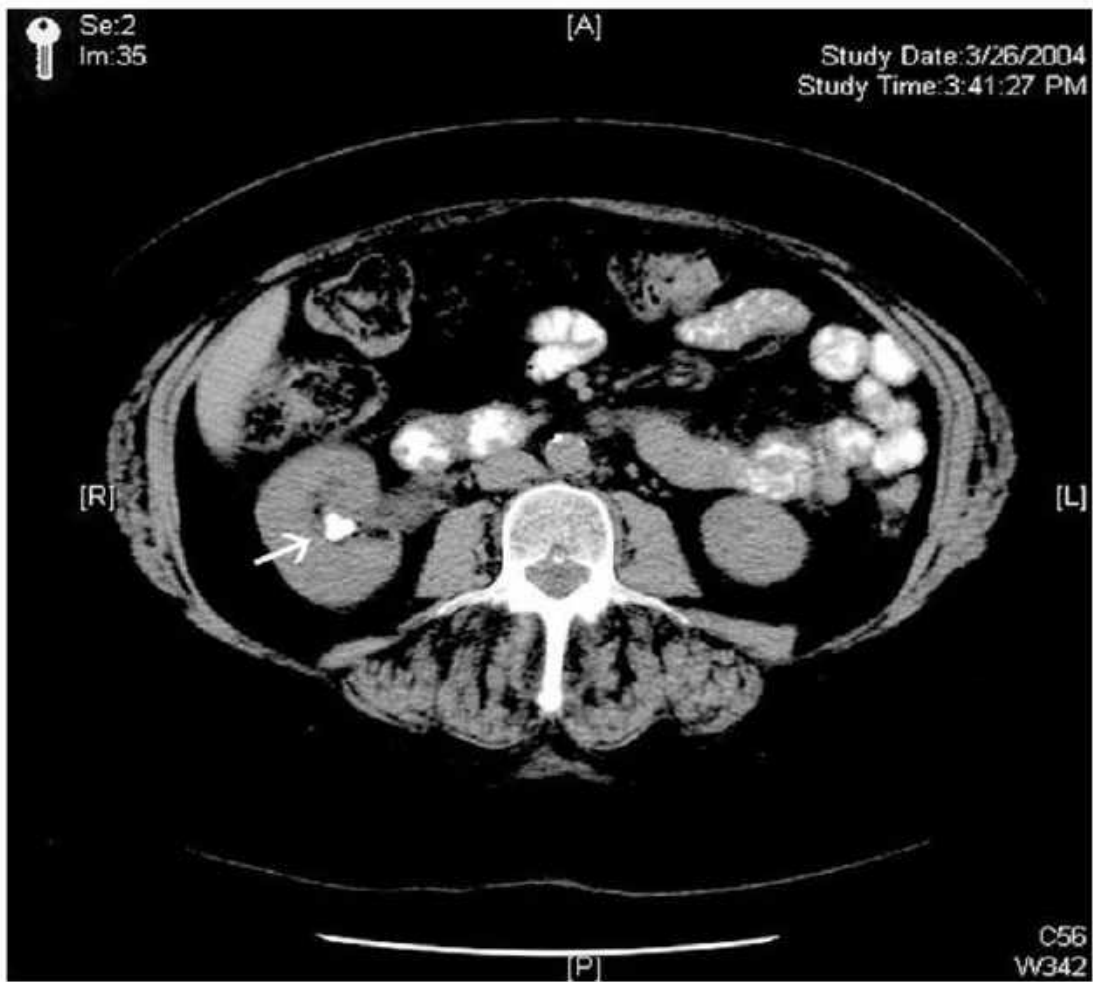
Nephroptosis



Intravenous excretory urogram (IVU) in a 40-year-old female with the complaint of a mobile mass in the right lower quadrant with standing associated with bilateral flank and back pain that resolved in the supine position. A, Supine IVU shows kidneys in the normal position, with normal ureters and proximal collecting systems. B, Standing film shows significant displacement of both kidneys with the right kidney moving onto the pelvis as described by the patient.



Increased thru-transmission (also called distal enhancement) is demonstrated in this longitudinal view of the left kidney. The tissue distal to the cyst appears hyperechoic compared with adjacent tissue.



CT
Stone

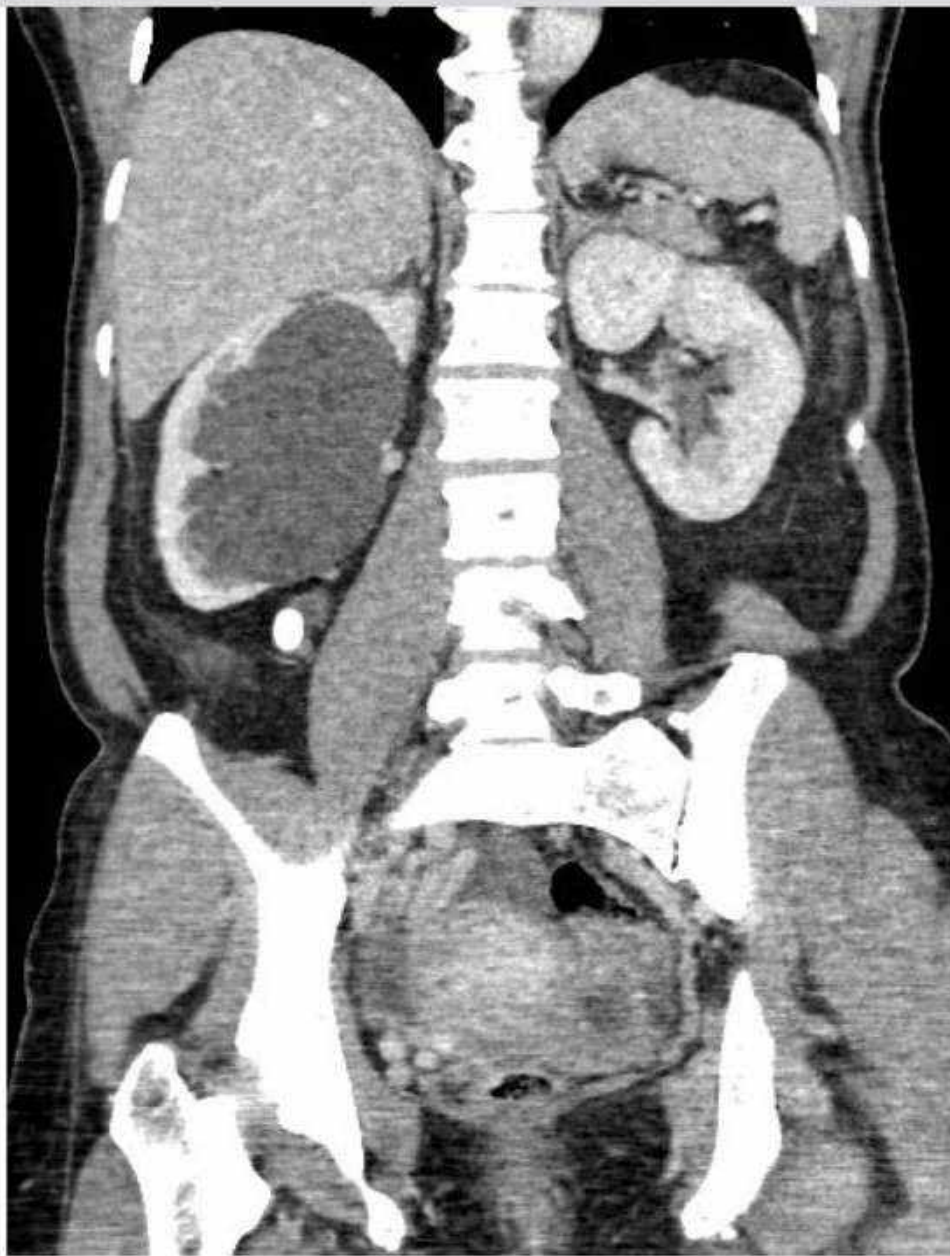
CT image of a urinary calculus. All stones (with the exception of some medication calculi) appear as dense, white objects within the urinary collecting system.

Stone in kidney



Plain film of a patient with bilateral staghorn calculi composed entirely of Struvite. This patient had a history of recurrent urinary tract infections dating back 15 years.

Staghorne KUB



- 1-What does this show?
- 2- best next step?

- Right upper ureteric stone with sever HN and thin parenchyma
- DMSA scan to determine split renal function

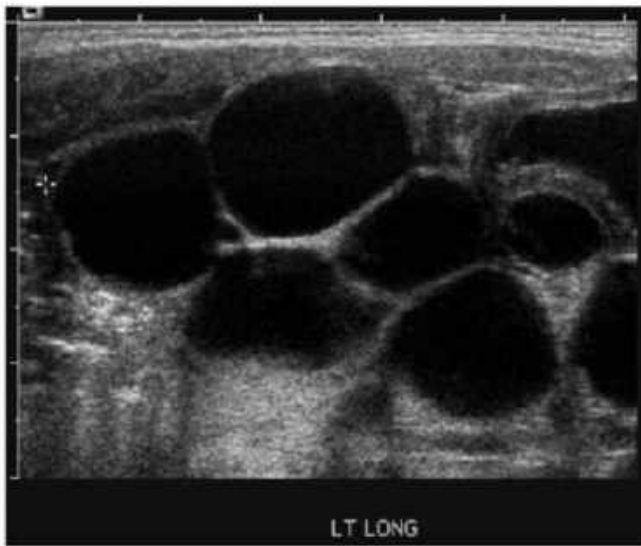


1-Diagnosis?
2- treatment?

Urethral structure

1- bulbar urethral stricture

2- anastomotic urethroplasty

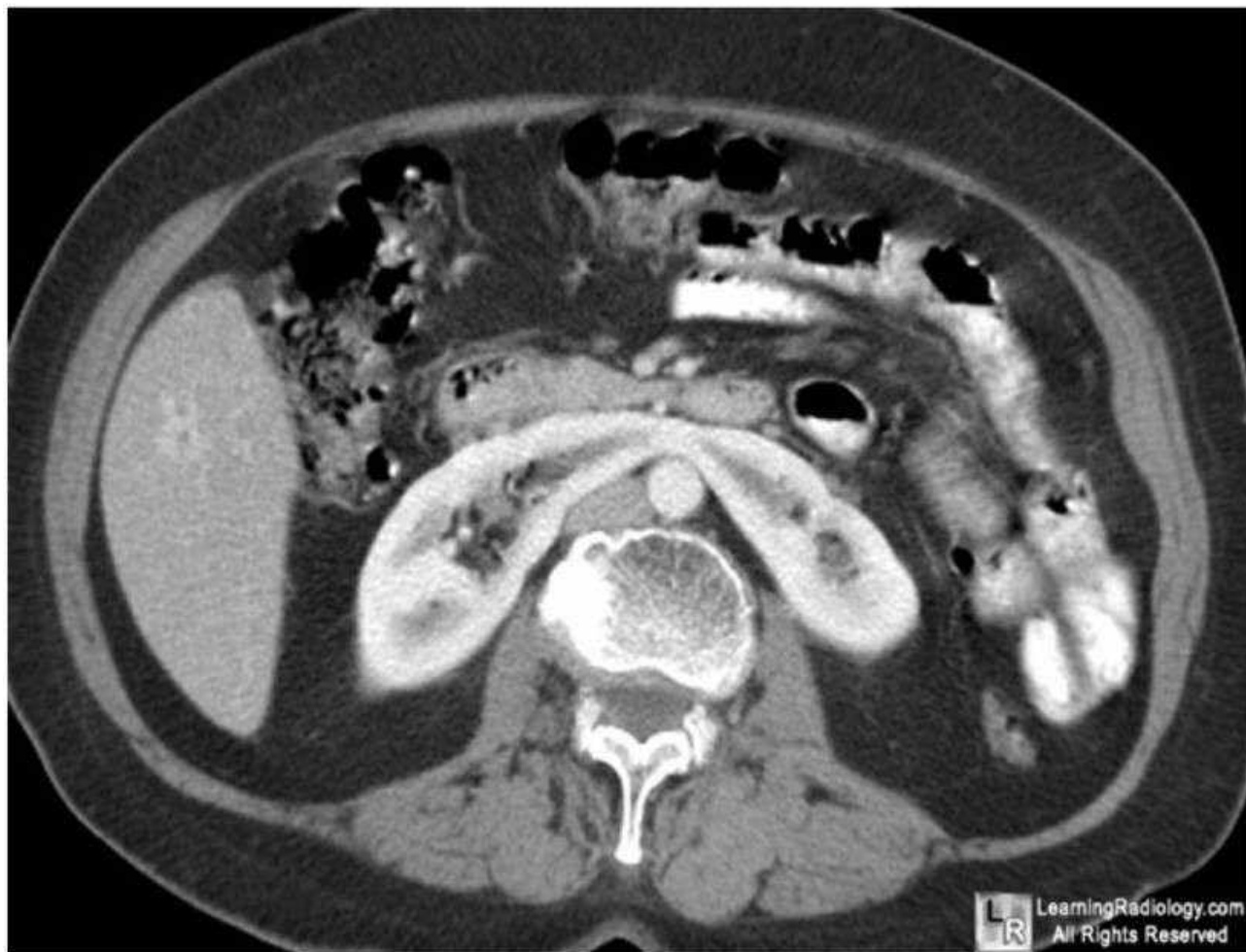


Multicystic

- 1- what is the diagnosis?
- 2- mention 2 associated anomalies

1- Multicystic dysplastic kidney

2- contralateral PUJ and contralateral VUR



Mention 3 possible complications?

Horseshoe

1- PUJ obstruction

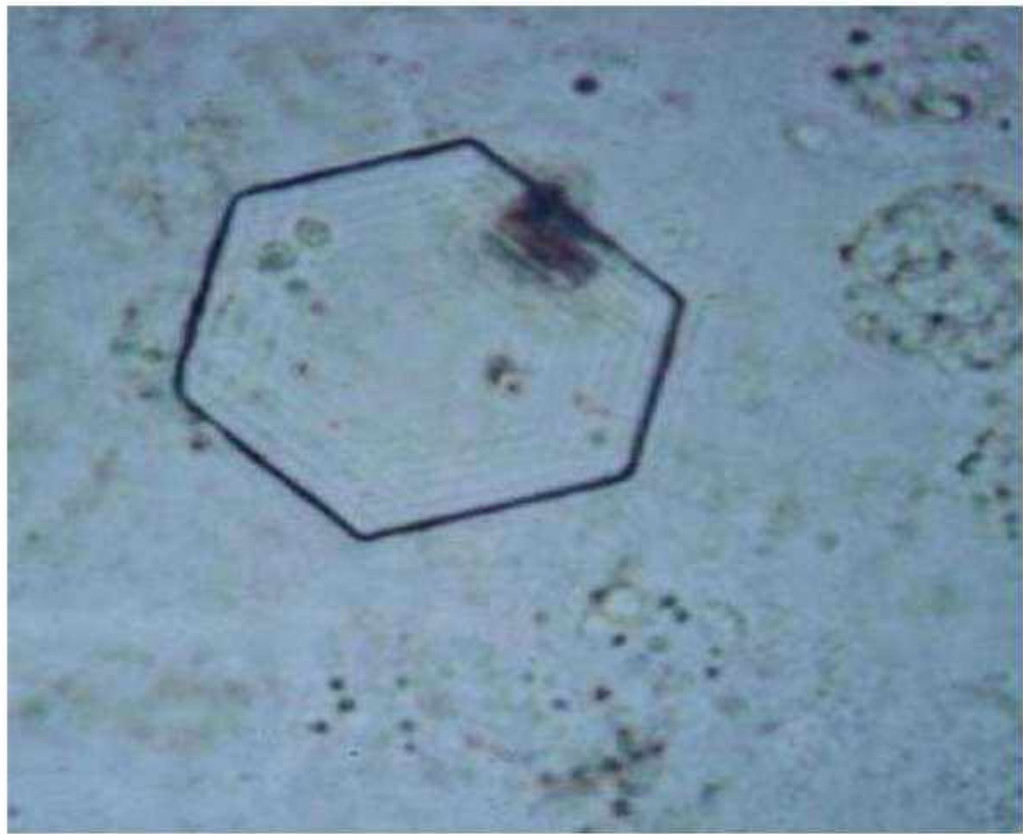
2- stone

3- wilms tumor



- 1-What is this (be specific)?
- 2- mention 2 complications

- Egg of schistosoma hematobium
- Squamous carcinoma of bladder
- Obstructive uropathy



- 1-What stones are these crystals associated with?
- 2- mode of transmission of underlying disease

- Cystine stone
- Autosomal recessive



- 1 – what are the possible causes of this condition ?
- 2 – what are the complications of this condition ?

- 1-Penile fracture, blunt trauma
- 2- urethral injury, erectile dysfunction

7/68 year old male. CT aortogram
study for suspected aortic
dissection

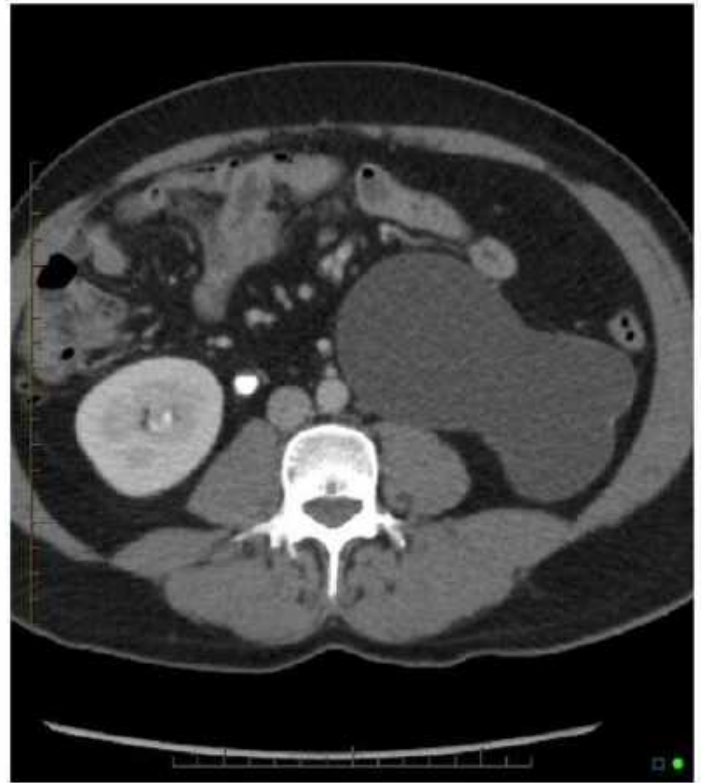


Horseshoe

Answer 7

- Horseshoe kidney with functioning renal parenchyma at the isthmus.

10/ A-40- year old male ,mild loin pain?



Hydronephrosis

Answer 10

- Gross hydronephrosis with no residual cortical tissue = PUJ obstruction not multicystic dysplastic kidney as has it maintains a reniform shape

11/diagnosis?



Answer 11

- Chronically rejected (forgotten) broken left
sided DJ stent with multiple calculi

3 YEARS OLD BOY WITH RECURRENT UTI



16 of 5

Cobra head

Large Ureterocele:
Filling defect at the bladder base

[2D] G60 / 85dB

FA2 / P100

M

BPH



Truma

A, Testicular rupture after blunt trauma. B, Reconstructed testis after debridement and closure. Arrow indicates placement of tunica vaginalis graft.

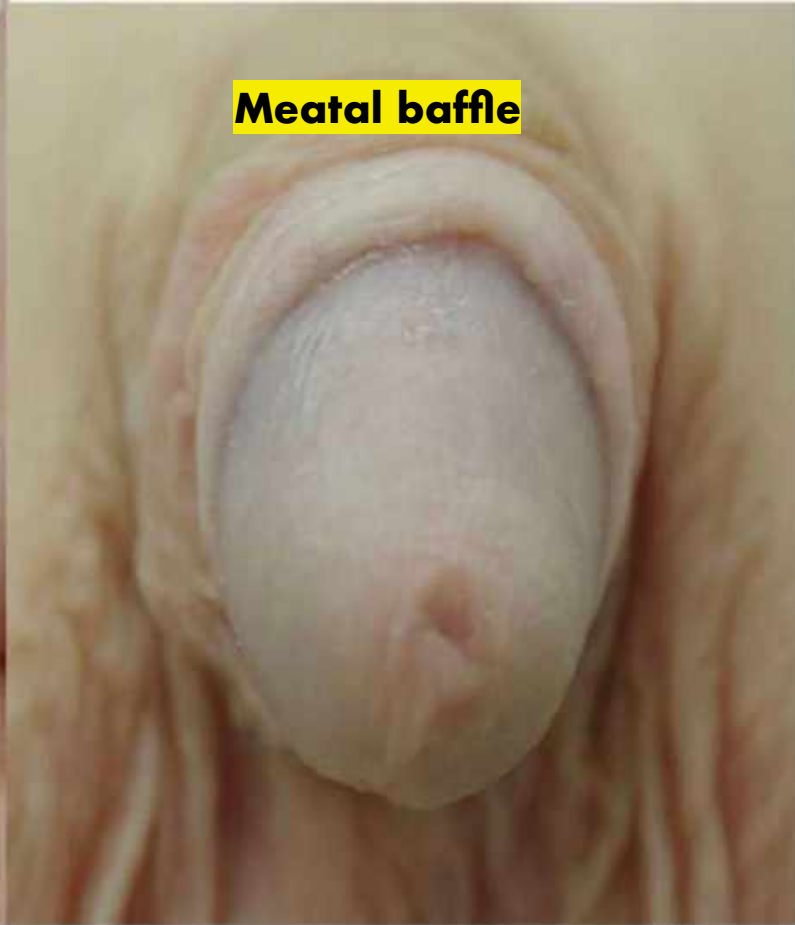


Large erythematous scrotum with central necrosis suggestive of necrotizing infection.

Meatal stenosis



Meatal baffle



Meatal complications associated with circumcision. A, Meatal stenosis. B, Meatal baffle.

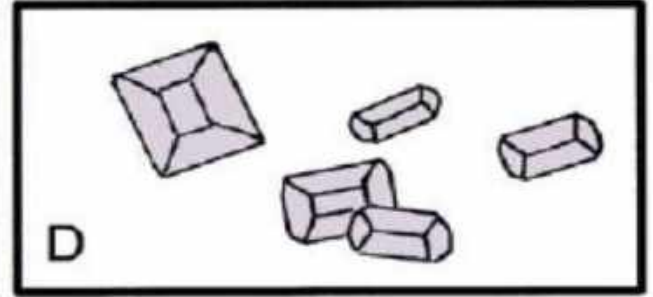
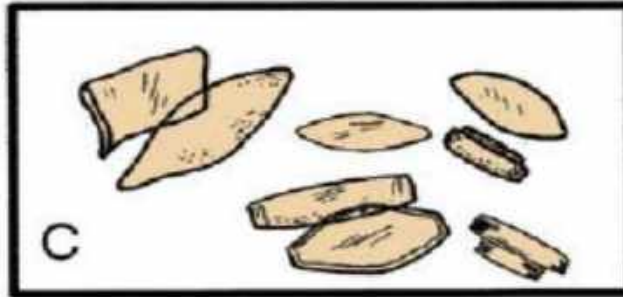
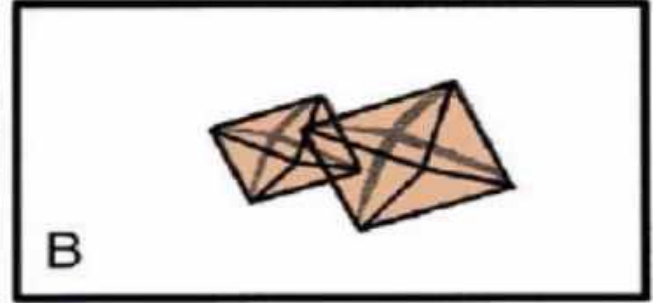
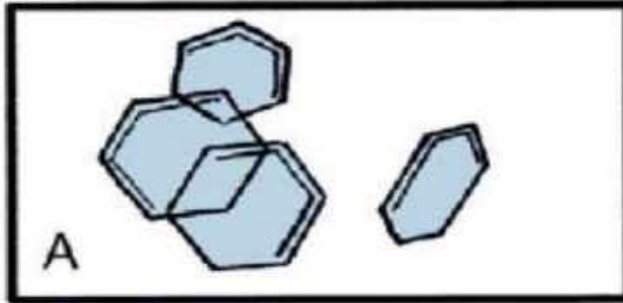
Xerotica



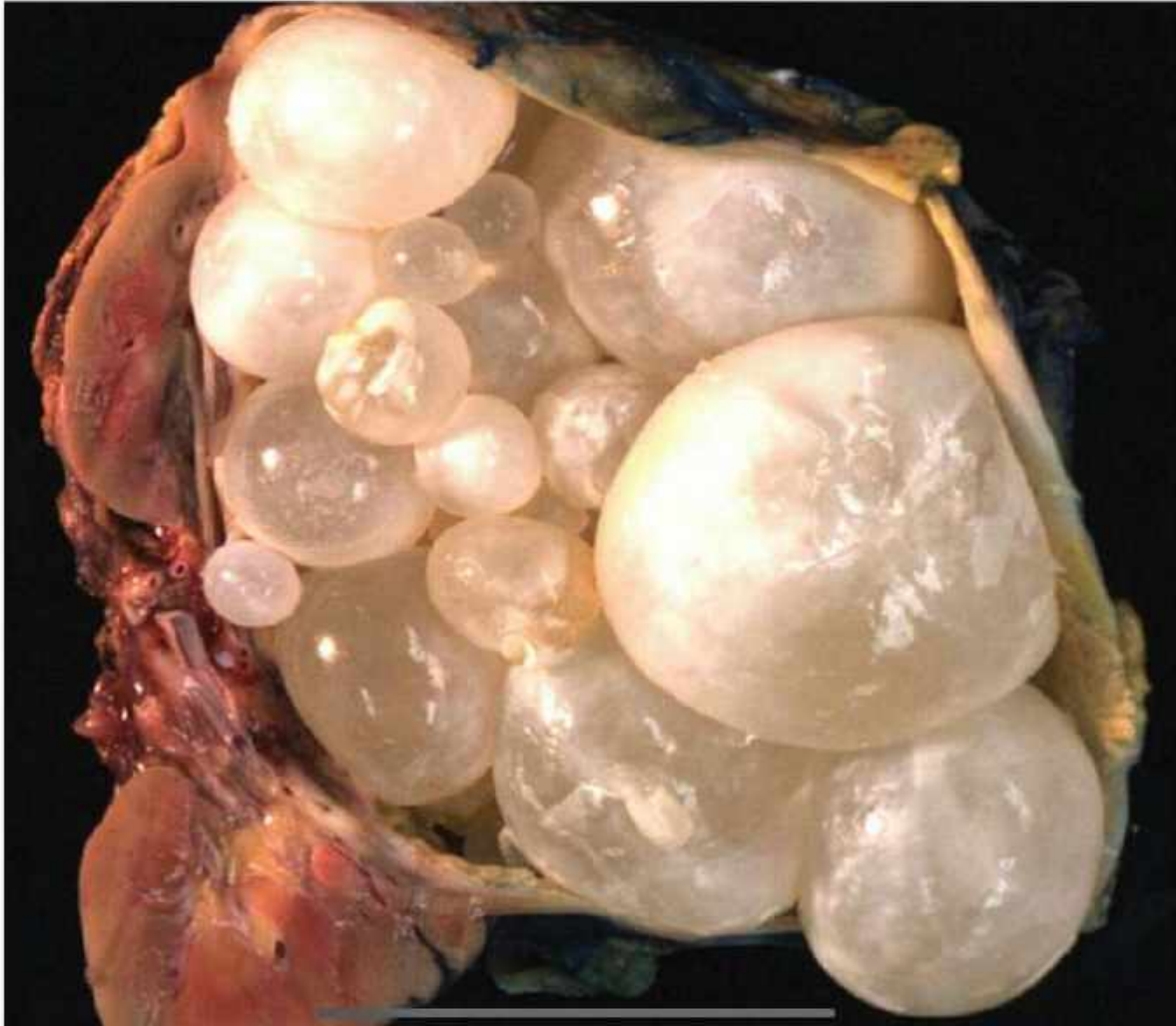
Balanitis xerotica obliterans. The diagnosis is suspected from the white discoloration of the meatus in a patient with symptomatic meatal stenosis.

Urinary crystals:

- A. Cystine (hexagonal)
- B. Calcium oxalate (envelopes)
- C. Uric acid (rhabdoid)
- D. Triple phosphate-struvite (coffin)



Renal hydatid cystes



Fournier gangrene



Iatrogenic hypospadias



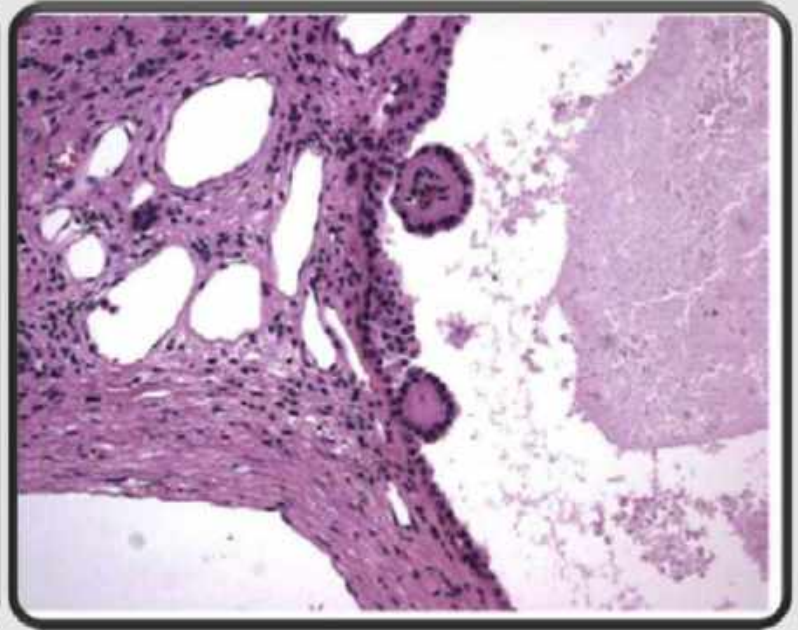
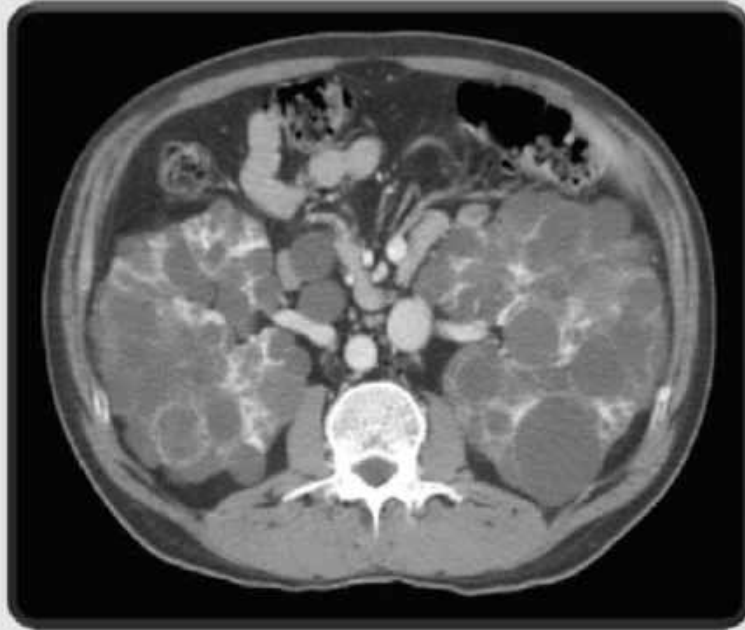
Testicular torsion??



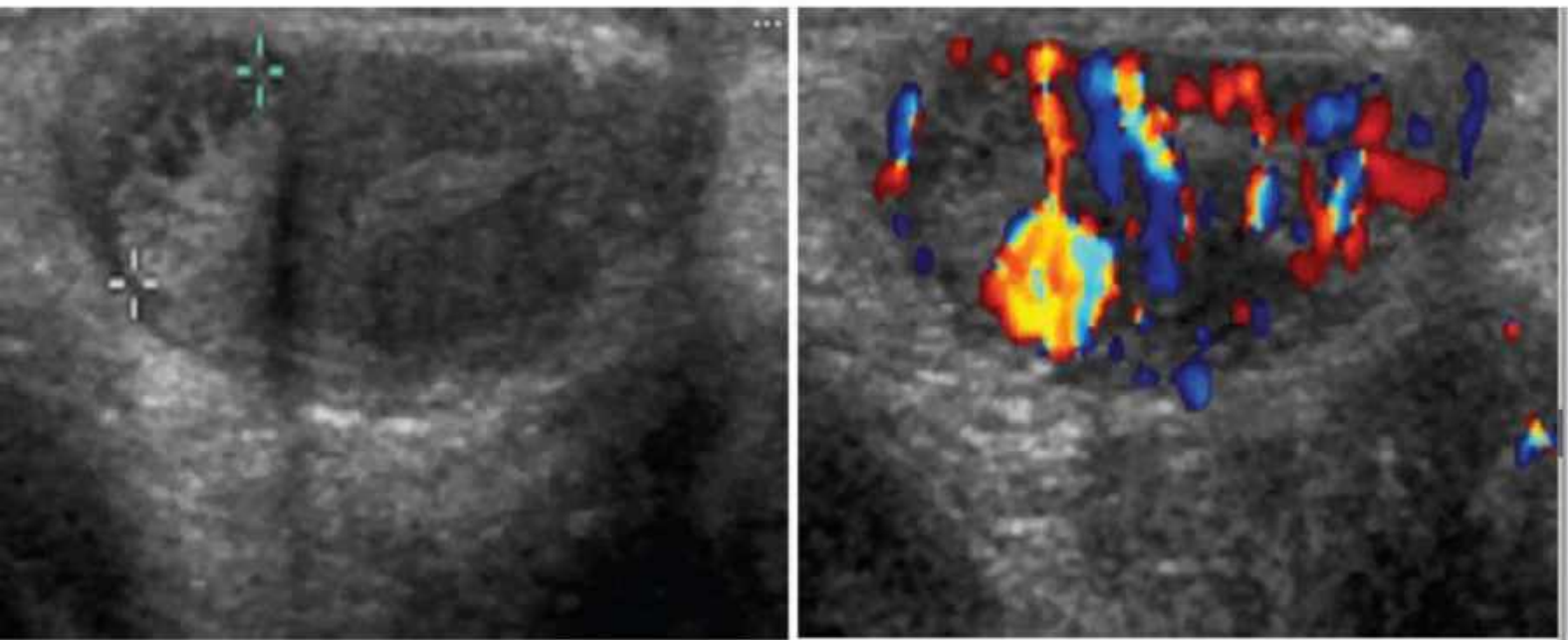
Tusticular torsion

variable-sized B/L renal cysts

ADPKD



ADPKD

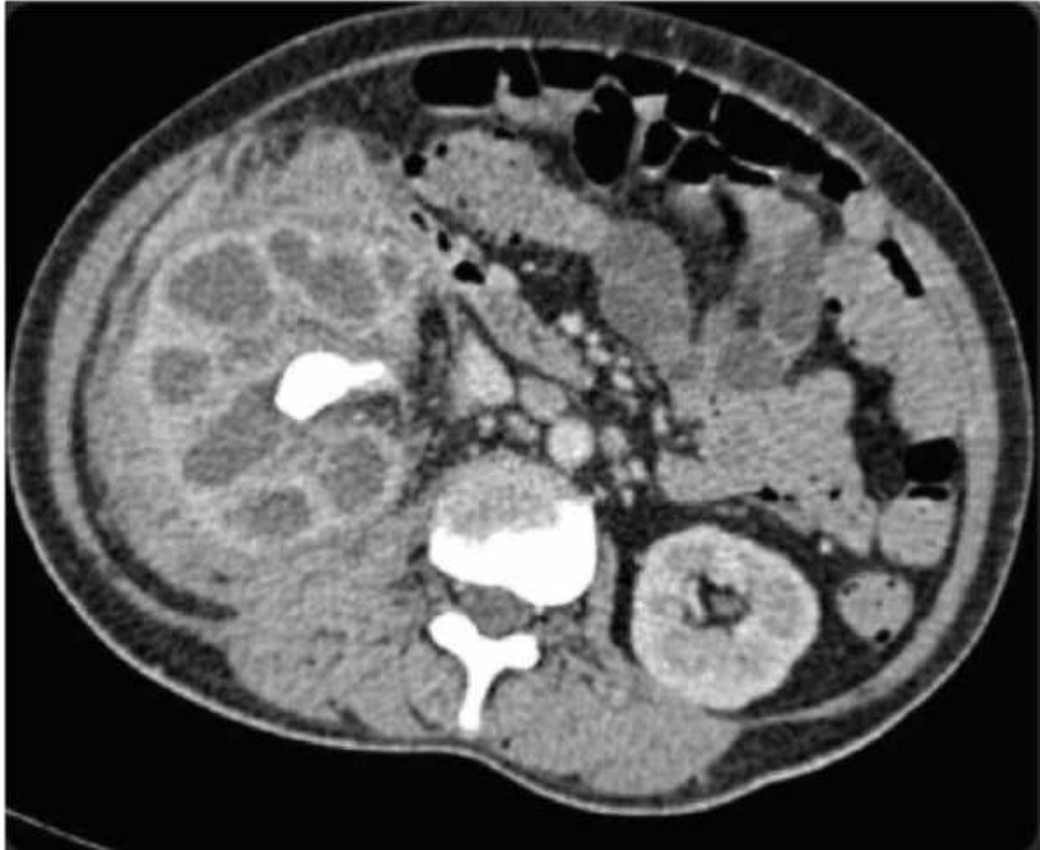


Torsion of a testicular appendage. CDUS shows (A) a heterogeneous enlarged appendix of 7 mm in greatest diameter and (B) increased flow to testis and epididymis and avascular appendix. The patient was treated conservatively, and the examination findings normalized within 1 week.

NCECT:??

Axial section

Rt HN, renal pelvis stone, perinephric fat stranding >> bear paw sign >> XGP.



bear paw sign

Intravenous urogram? Retrograde pyelogram?:

AP

B/L HN & HU up to L4-L5 level with medial ureteral deviation (maiden waist deformity) >> retroperitoneal fibrosis.

ttt: dj, nephrostomy, prednisolon for 2yr, tamoxifen for 1yr, surgical ureterolysis.



Retroperitoneal fibrosis

NCECT pelvis:

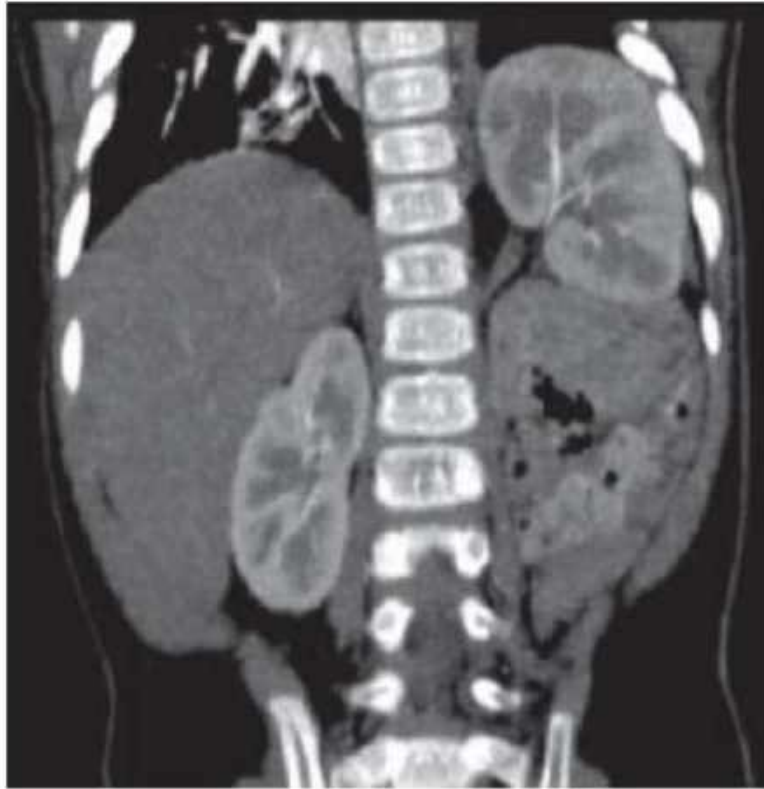
axial section

Lt lower ureteral stone, impacted at the Lt ureterovesical junction.



CECT lower chest and upper abdomen: coronal section Lt ectopic kidney (Lt intrathoracic kidney)

Ectopic





ADPKD

Normal sized kidney
 Few or multiple usually larger cysts
 Cyst-free parenchyma exhibiting
 normal echogenicity
 Medulla clearly distinguishable
 from cortex

ARPKD

Enlarged kidney
 Multiple small cysts
 Diffuse increase of
 parenchymal echo;
 Loss of distinction b
 medulla and corte:

Plain X-ray abdomen and pelvis (KUB):

AP

showing right lower ureteral radioopaque shadow>> calculus.

D/D: calcification, phleboliths, foreign body, fecolith.



IVU:

AP

(Rt duplex system (drooping lily sign



Drooping lily sign

Intravenous urogram (IVU):

AP

Rt complete duplex system

Lt incomplete ureter duplication (bifid Lt ureter)



Incomplete

bifid

Intravenous urogram (IVU):

AP

B/L HUN with ureteral medial deviation >>>Retroperitoneal fibrosis

(ttx: corticosteroid, lysis)



Retroperitoneal fibrosis



Fig. 10.1 A clinical photograph of a patient with normal looking external genitalia and undescended right testis who was found to have deficiency of MIS

Undescended



Figs. 17.1 and 17.2 Clinical photographs showing a large right and left inguinal hernia

Inguinal hernia



Figs. 17.3 and 17.4 A clinical photograph showing bilateral inguinal hernias

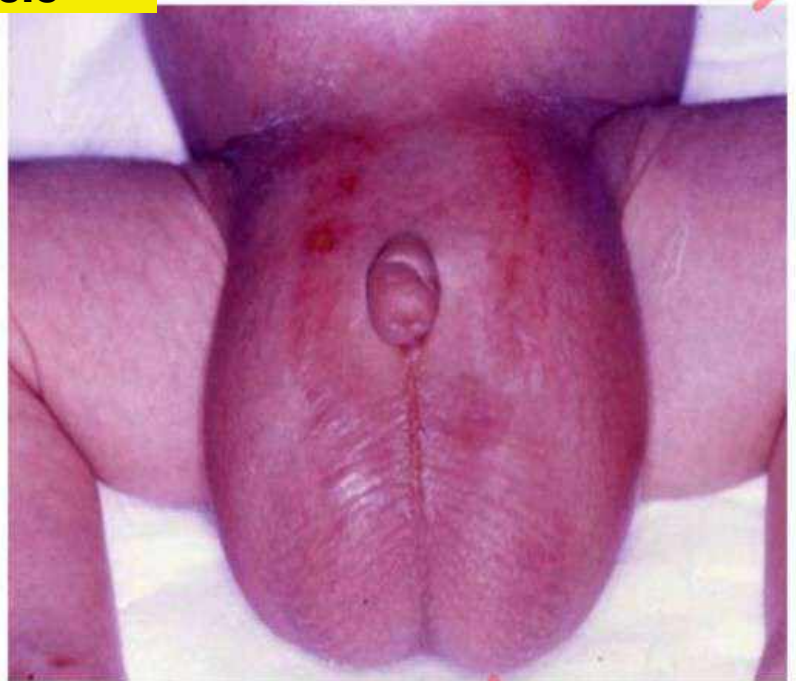
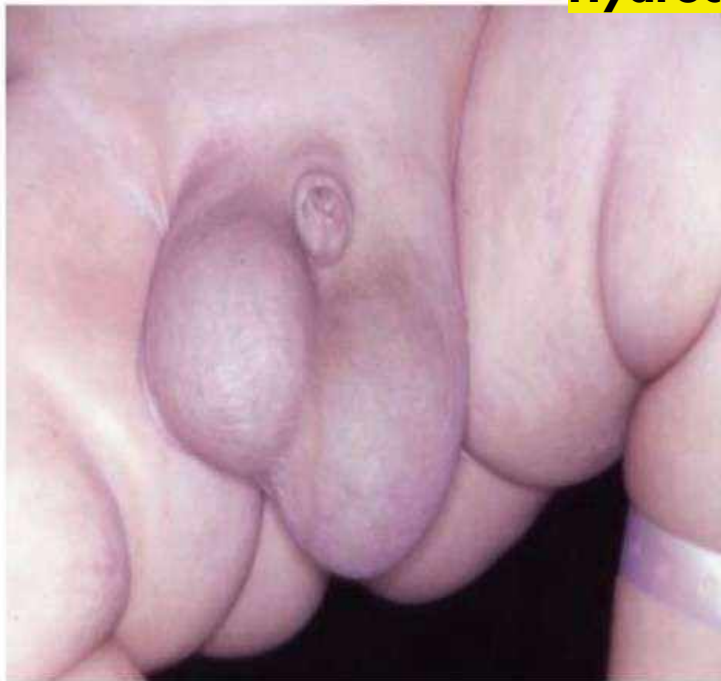


Fig. 17.24 A clinical photograph showing transillumination of a hydrocele



Fig. 17.27 A clinical photograph showing giant bilateral hydroceles

Hydrocele



Figs. 17.25 and 17.26 Clinical photographs showing small and large bilateral hydroceles



Figs. 19.11 and 19.12 Micturating cystourethrograms showing severe bilateral reflux

Reflux



Figs. 21.1 and 21.2 Clinical photographs showing two patients with hypospadias. The ectopic urethra is located on the ventral side of the shaft penis. Note the ectopic urethral meatus and also the dorsal winged prepuce

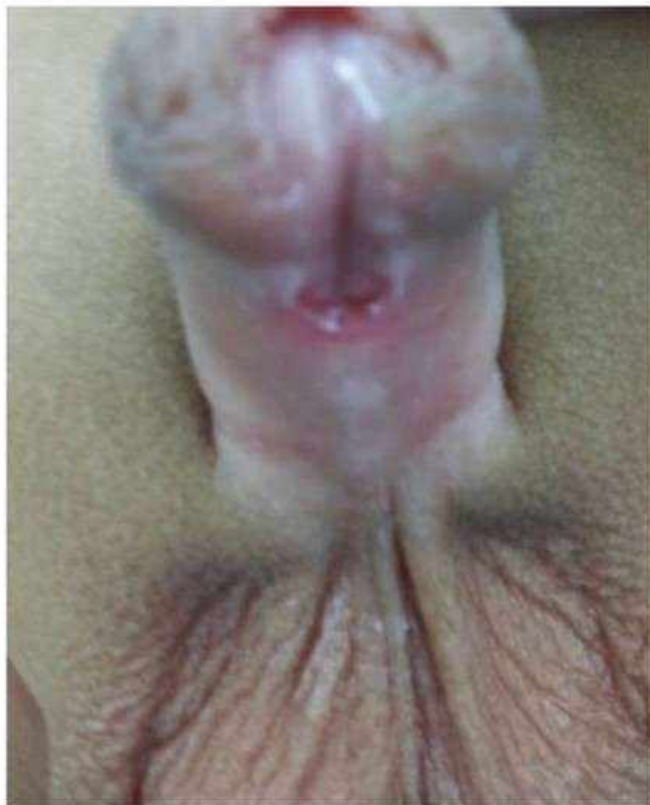
Hypospadias



Figs. 21.3 and 21.4 Clinical photographs showing two patients with hypospadias. Note the lack of prepuce ventrally. Note also the ventral curvature of the penis



Figs. 21.17 and 21.18 Clinical photographs showing glanular hypospadias



Figs. 21.23 and 21.24 Clinical photographs showing distal penile hypospadias



Figs. 21.25 and 21.26 Clinical photographs showing midshaft hypospadias



Figs. 21.27 and 21.28 Clinical photographs showing proximal hypospadias



Figs. 21.29 and 21.30 Clinical photographs showing penoscrotal hypospadias



Figs. 21.31 and 21.32 Clinical photographs showing perineal hypospadias



Figs. 21.33 and 21.34 Clinical photographs showing hypospadias. Note the abnormal ectopic meatus on the ventral surface of the penis. Note also the glanular groove



igs. 21.50 and 21.51 Clinical photographs showing proximal hypospadias with severe chordee. Note the penile length after release of chordee and how straight it became





s. 22.17 and 22.18 Photographs showing the different shapes of plastibells



Figs. 22.19, 22.20, and 22.21 Clinical photographs showing an uncircumcised infant. The preputial opening is dilated and opened



Figs. 22.22 and 22.23 Clinical photographs showing the dorsal slit and the introduced plastibell. The suture for tining is already prepared

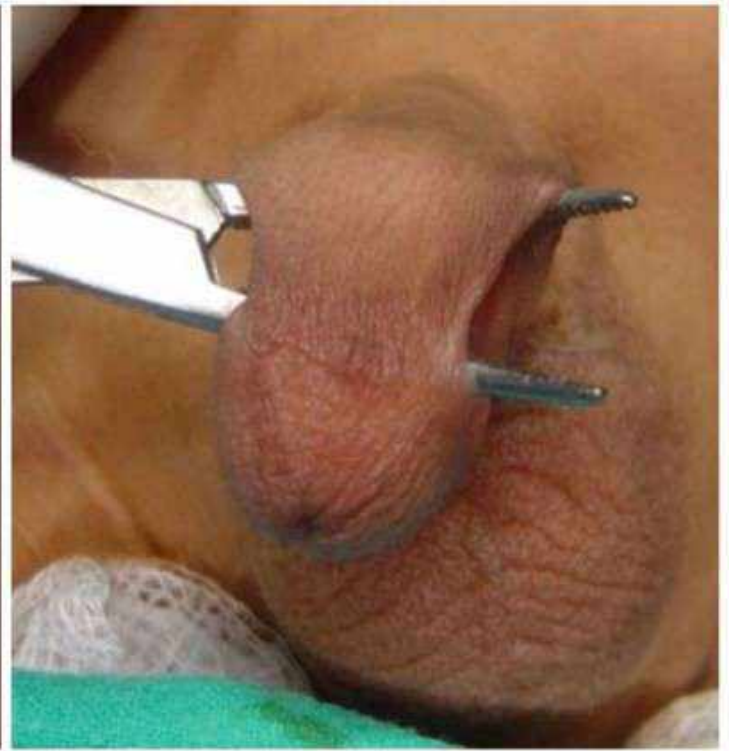


Figs. 22.49 and 22.50 Clinical photographs showing concealed penis following circumcision



Figs. 22.51, 22.52, 22.53, and 22.54 Clinical photographs showing unsatisfactory cosmesis following circumcision

Circumcision



Figs. 22.55, 22.56, and 22.57 Clinical photographs showing skin bridges following circumcision



Fig. 22.58 A clinical photograph showing chordee



Fig. 22.59 A clinical photograph showing a retained plastibel. Note the associated swelling of the glans penis



Fig. 22.60 A clinical photograph showing incomplete circumcision



Fig. 22.62 A clinical photograph showing a urethral fistula following circumcision



Fig. 22.61 A clinical photograph showing gangrenous glans penis following circumcision



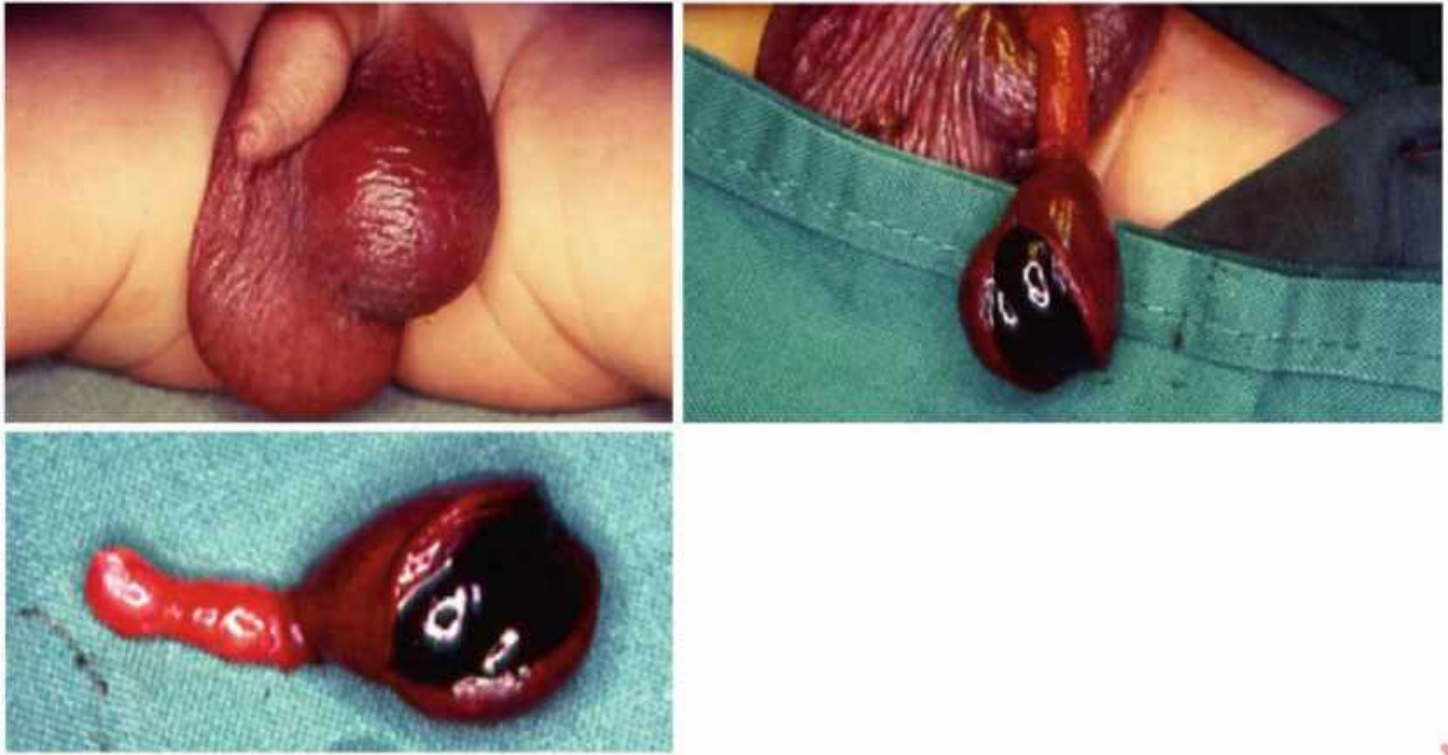
Figs.23.1 and 23.2 Clinical photographs showing priapism in a child



Figs. 23.4 and 23.5 Clinical photograph showing priapism in two children with sickle cell disease



Fig. 24.1 A clinical photograph showing undescended right testis



Figs. 26.7, 26.8, and 26.9 Clinical and intraoperative photographs showing intrauterine torsion of testes. Note the discoloration of the affected scrotum which is slightly elevated. Note also the frankly necrotic testis

Torsion necrosis

Fig.26.10 Diagrammatic representation of the two types of testicular torsion, the intravaginal and extravaginal torsions

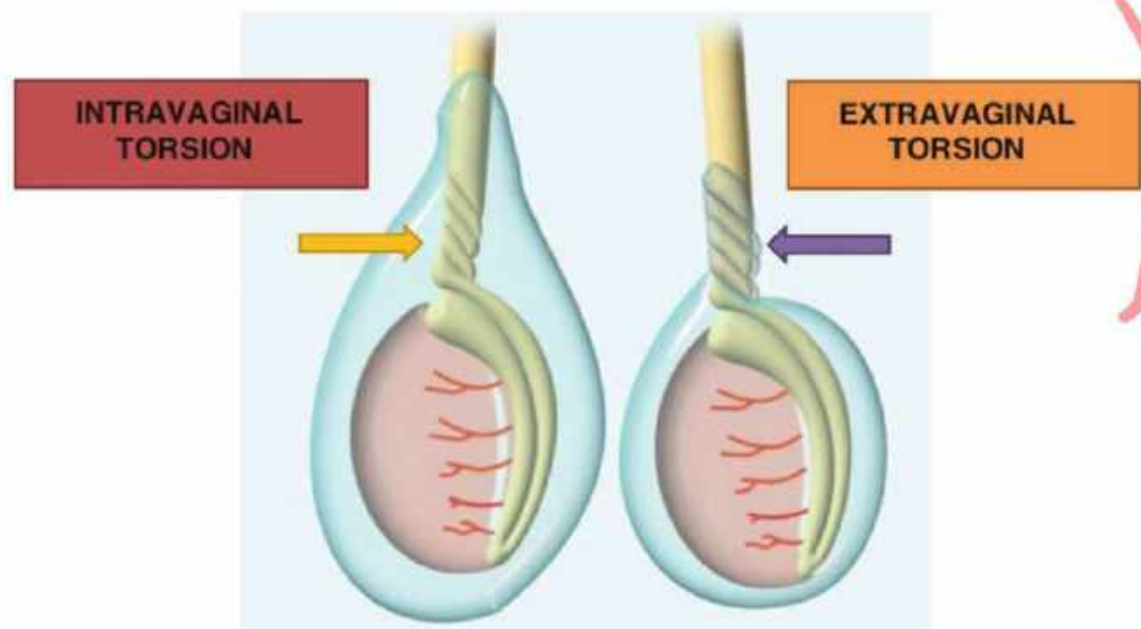
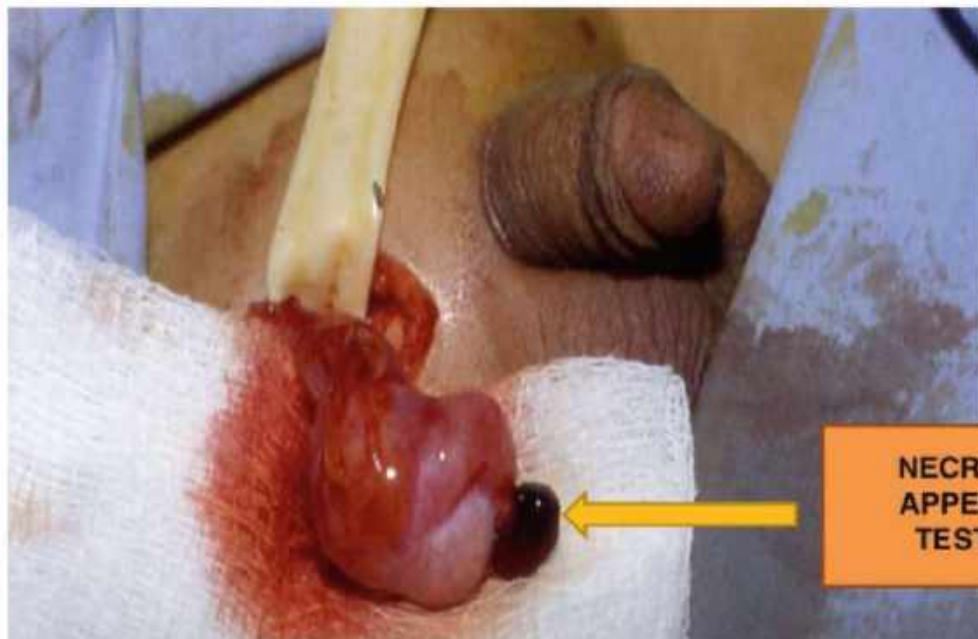


Fig.26.32 An intraoperative photograph showing torsion of the appendix testis in a child





Figs. 29.27 and 29.28 Clinical photographs showing hydroceles in a child. This usually present with a scrotal swelling that is not painful

Q4

A-Name the condition
B-List treatment options



Q6

A-Name the condition

B-what is the diagnosis?

C-How do you manage the condition?



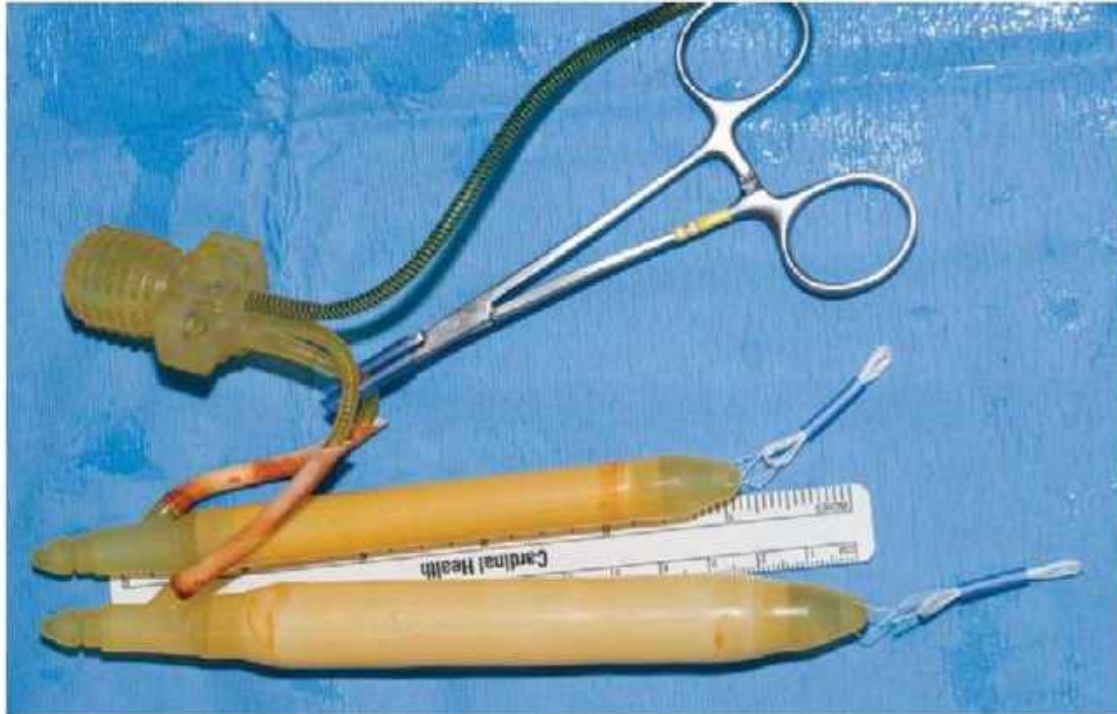
Q13

A-Name the deformity and diagnosis
B-Mention one treatment option





AMS 700 LGX three-piece inflatable penile prosthesis.



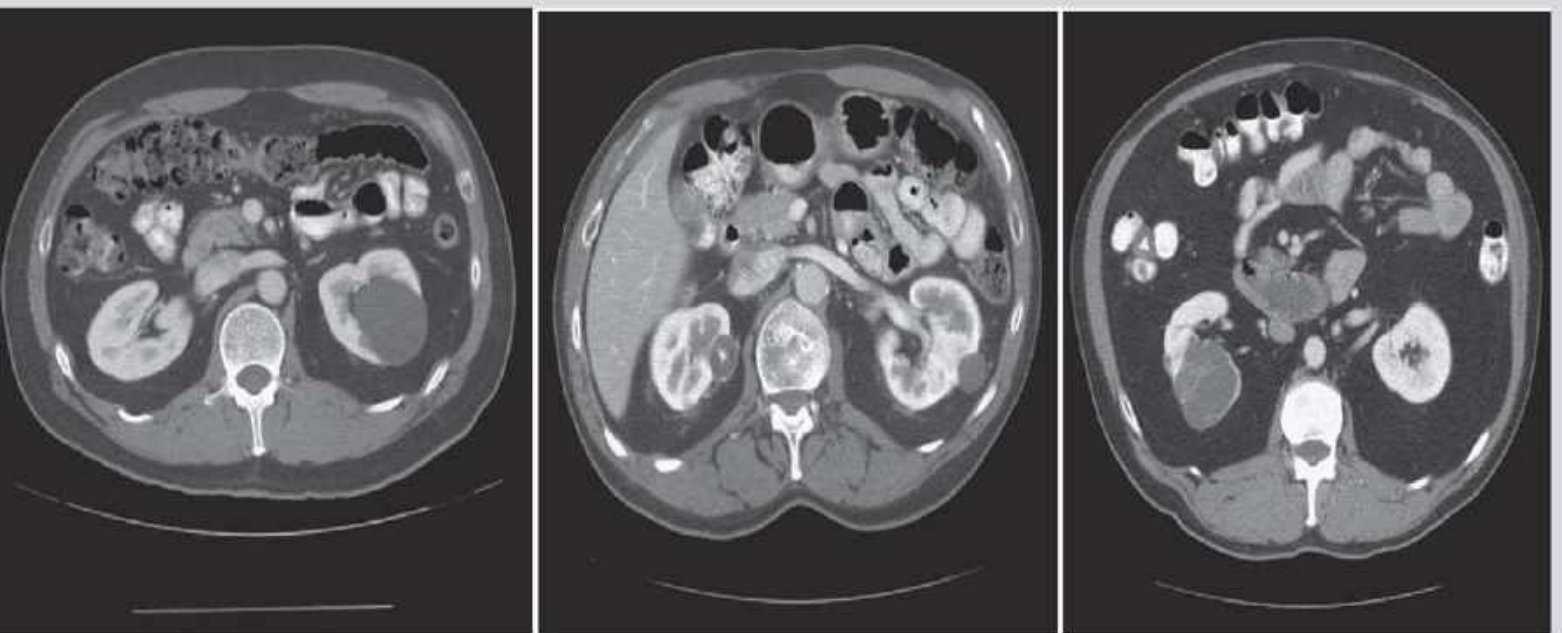
The prosthesis components prepared for implantation. One cylinder is inflated to demonstrate its girth and length-expanding properties. It is deflated before insertion.



The large impedance difference at the interface between urine and this bladder stone results in significant reflection and attenuation of the sound wave. An acoustic shadow is seen distal to the stone



In this transverse view of the urinary bladder , there are two large bladder diverticula. Two stones strongly reflect and attenuate the incident sound wave, producing an acoustical shadow. Note that the stones appear crescentic even though they are ovoid in shape.



A, CT scan of a Bosniak I renal cyst. B, CT scan of a Bosniak II renal cyst. Note internal calcification. C, CT scan of a Bosniak IIF renal cyst. Several thin irregular septations are present within the cyst.



A, CT scan of a Bosniak III renal cyst. Thick, irregular septations are present within the cyst. B, CT scan of a Bosniak IV renal cyst, with a solid enhancing nodule.



Abdominal radiograph demonstrating a large, impacted, distal right ureteral stone that was addressed with ureterolithotomy.

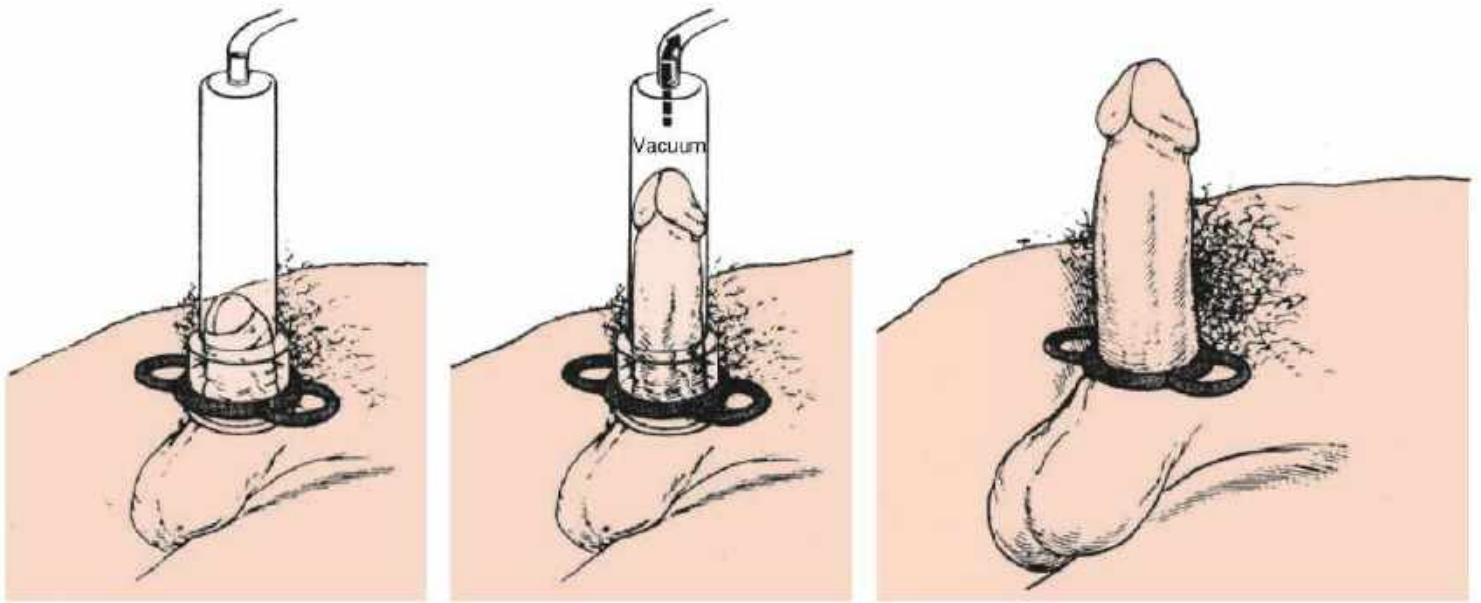


Fig. 16.12 Principle of vacuum devices (With kind permission of the Osbon Company)





Phimosis

Fig. 10.1 Phimosis in an infant



Fig. 4.10 Typical urethritis characterized by mucopurulent discharge



Fig. 4.11 Urethritis with marked mucopurulent discharge



Fig. 4.12 Balanitis characterized by marked erythema and discharge

Fig. 69.1 IVU
demonstrating PUJO



Fig. 73.1 Hydronephrosis
on USS



Fig. 73.2 Hydronephrosis
on CT

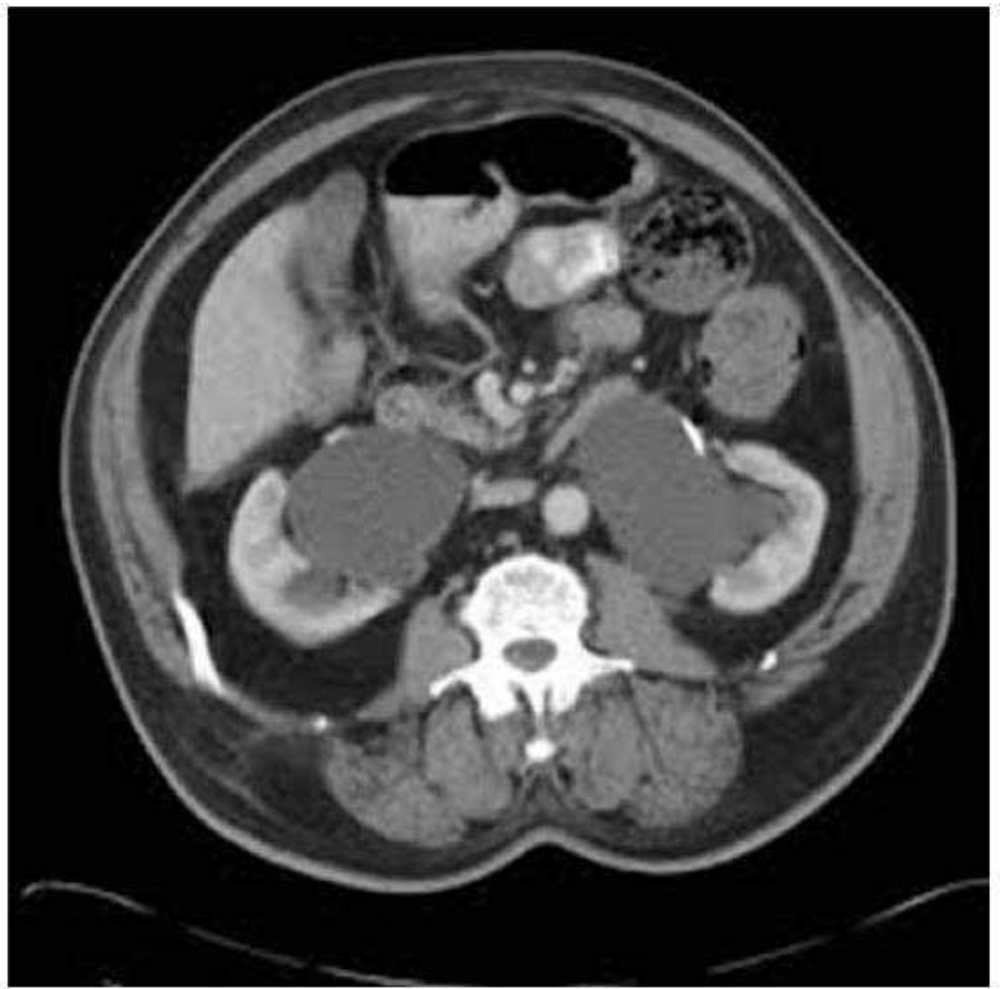


Fig. 76.1 Grade 1 renal trauma on CT

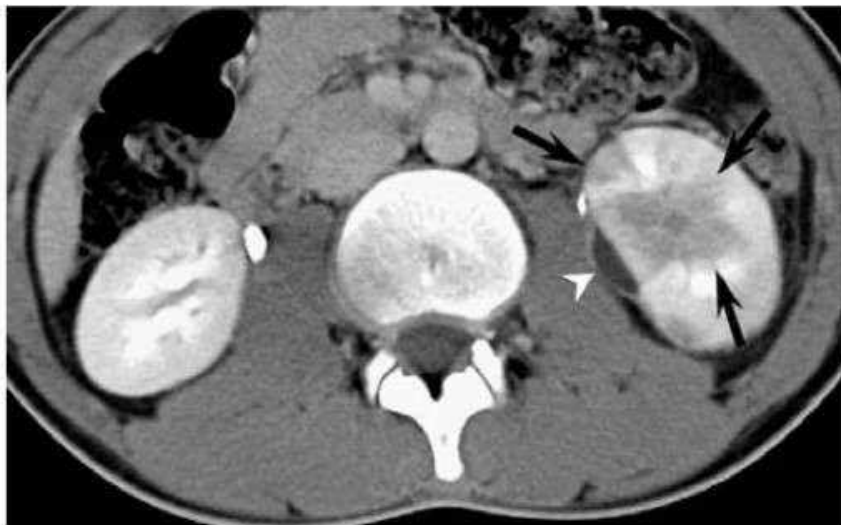


Fig. 76.2 Grade 2 renal trauma on CT



Fig. 76.3 Grade 3 renal trauma on CT

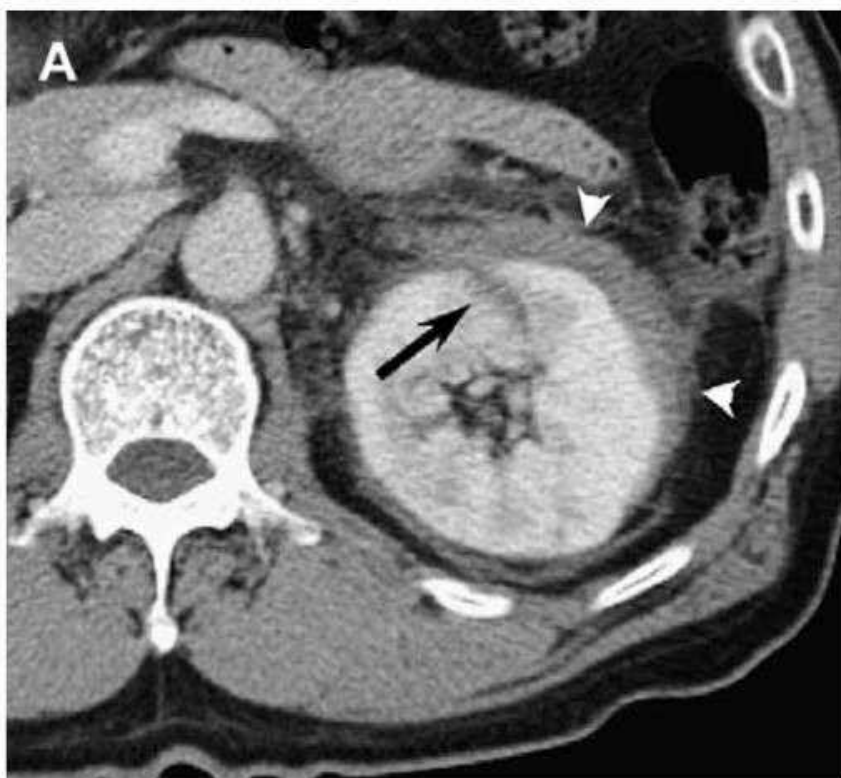


Fig. 76.4 Grade 4 renal trauma on CT



Fig. 76.5 Grade 5 renal trauma on CT

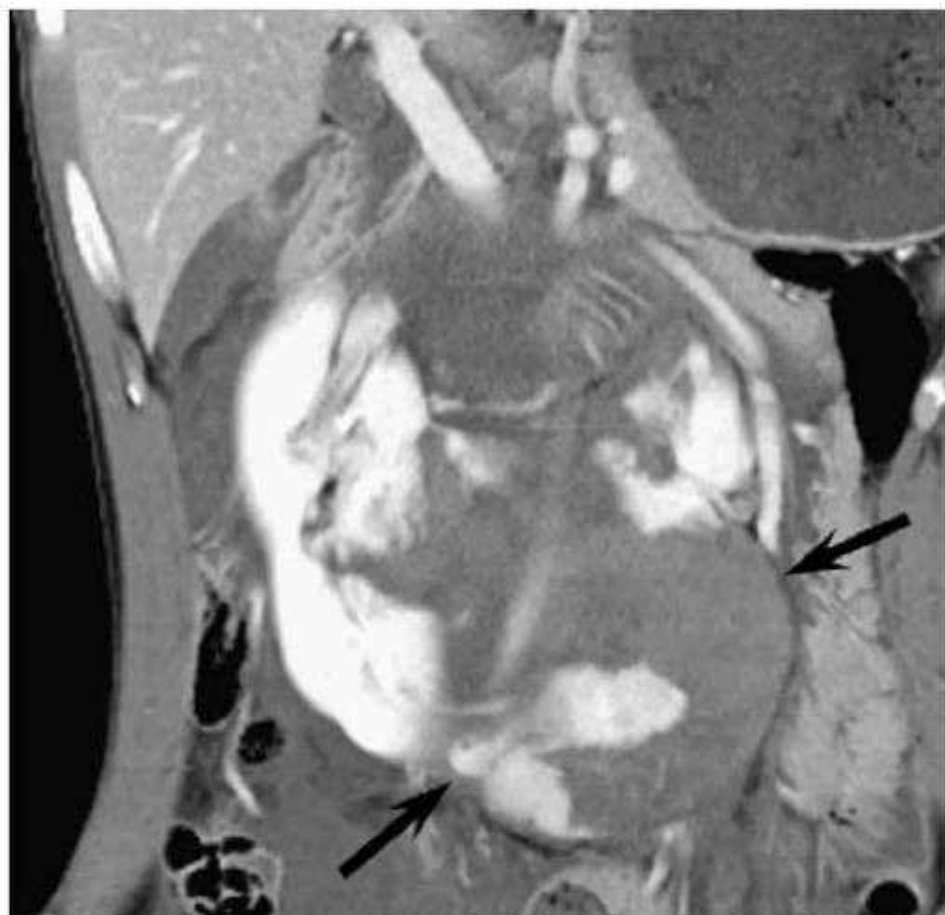


Fig. 78.1 Surgical management of renal trauma

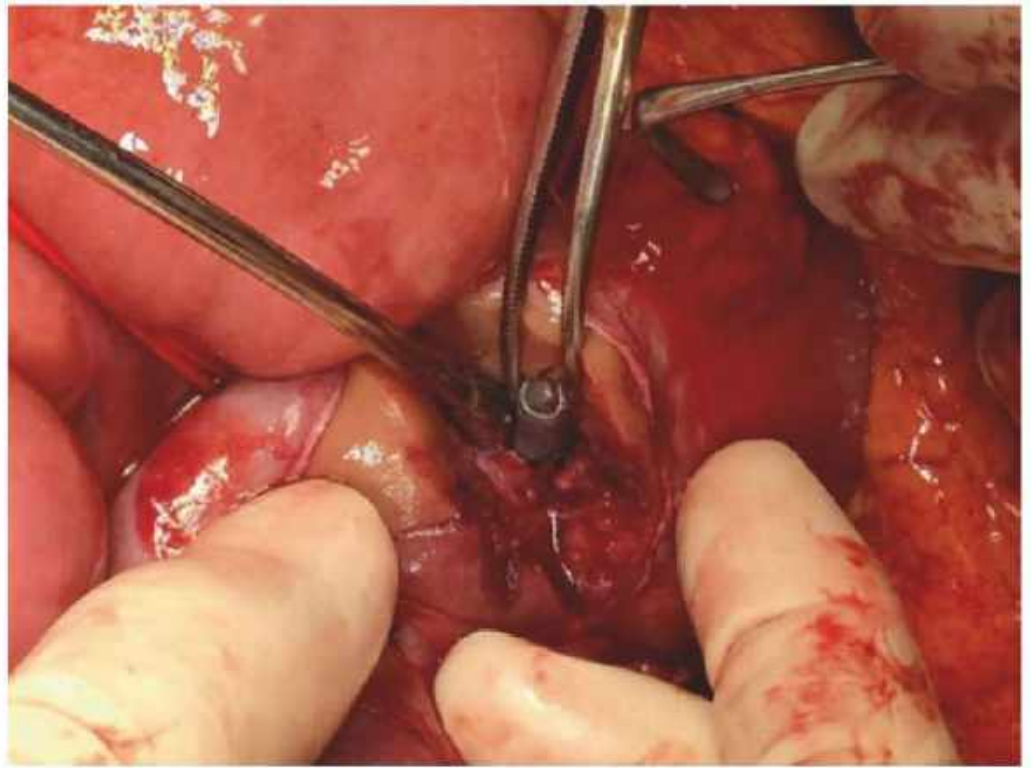


Fig. 116.1 CT demonstrating a right sided renal mass

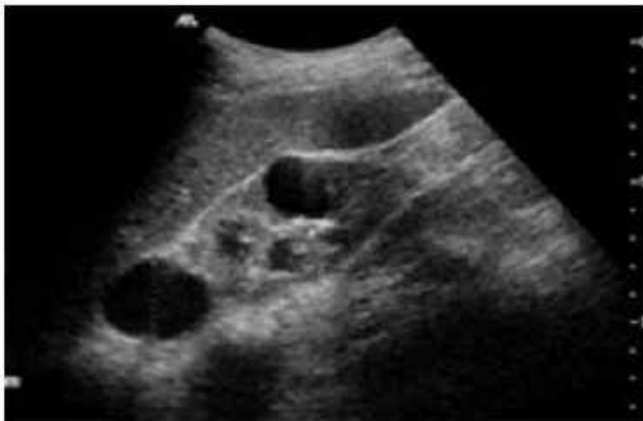
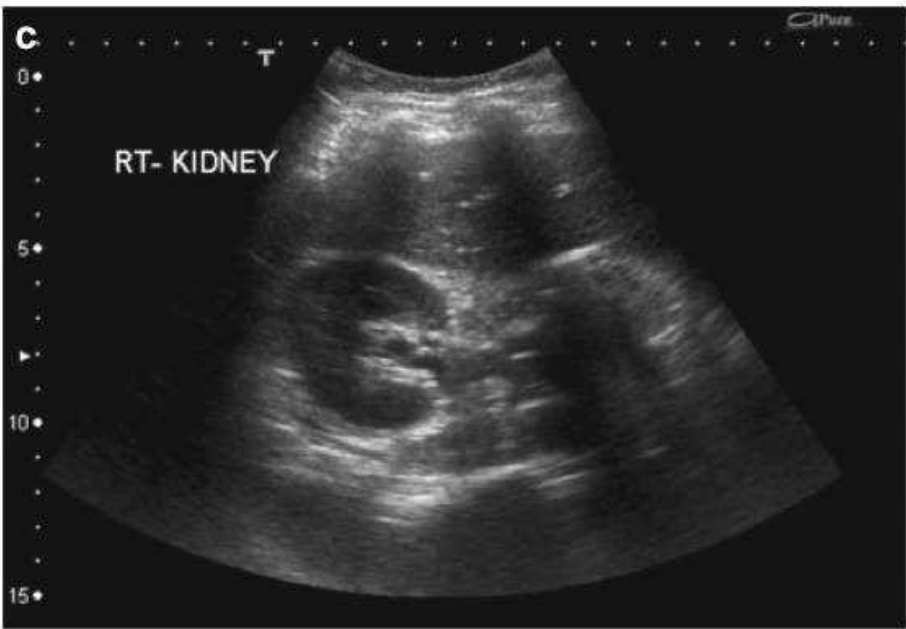
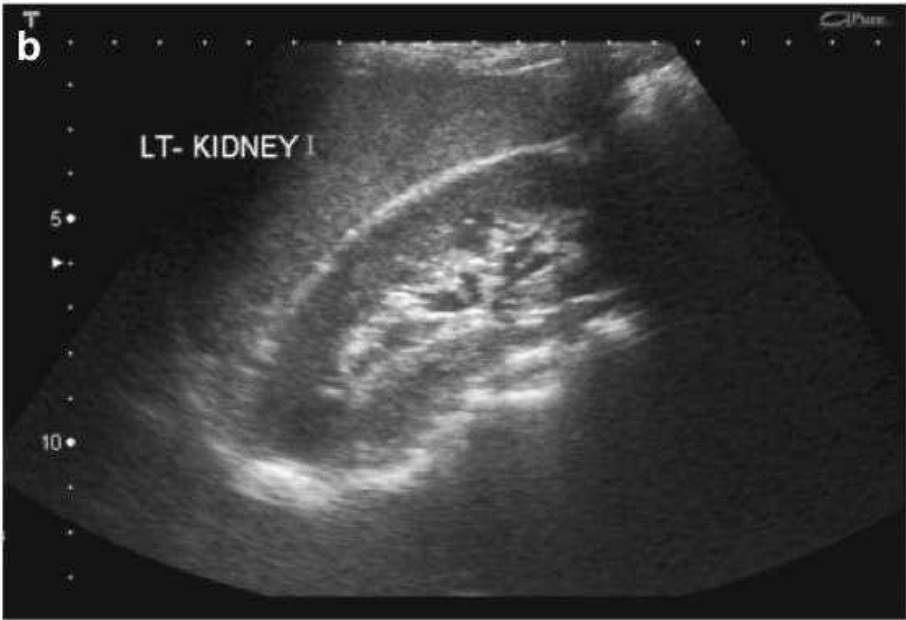
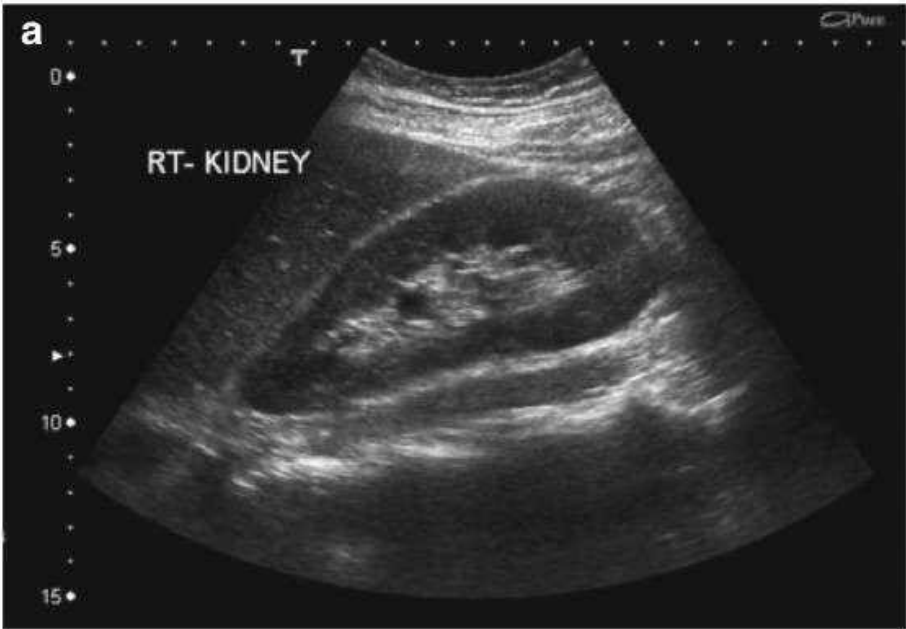


Fig. 116.2 A cystic renal mass on USS and CT

Fig. 2.1.1



**Answers to Case 2.1**

- Figure 2.1.1a-c are longitudinal ultrasound images through a normal right (a) and left (b) kidney, and transverse image through the right kidney (c). The left side of the image corresponds to the cranial or right side of the patient, depending on whether the probe is orientated longitudinally or transversely. Lying immediately above/adjacent to the kidney on the right is the liver, and on the left the spleen.
- The kidneys have a hypoechoic (i.e. darker) outer cortex which should be iso- or hypoechoic compared to the adjacent liver or spleen. If the cortex is hyperechoic, this is a non-specific sign of renal parenchymal disease. In thinner patients the medullary pyramids may be distinguished from the renal cortex, lying more centrally adjacent to the renal sinus. These are normally hypoechoic compared to the cortex. The renal sinus, seen centrally/medially, is hyperechoic due to its high fat content. The renal vessels and pelvicalyceal system may be seen within this region. Non-dilated ureters are not usually well seen on ultrasound except at the vesico-ureteric junction.
- Cut surface of a normal kidney showing: (1) renal cortex (2) medullary pyramids (3) column of Bertin (4) renal papilla (5) renal pelvis (6) calyx (7) ureter.

Further Reading

Hangiandreou NJ. AAPM/RSNA physics tutorial for residents: topics in US. B-mode US: basic concepts and new technology. *Radiographics*. 2003;23:1019-1033.

Fig. 2.3.1

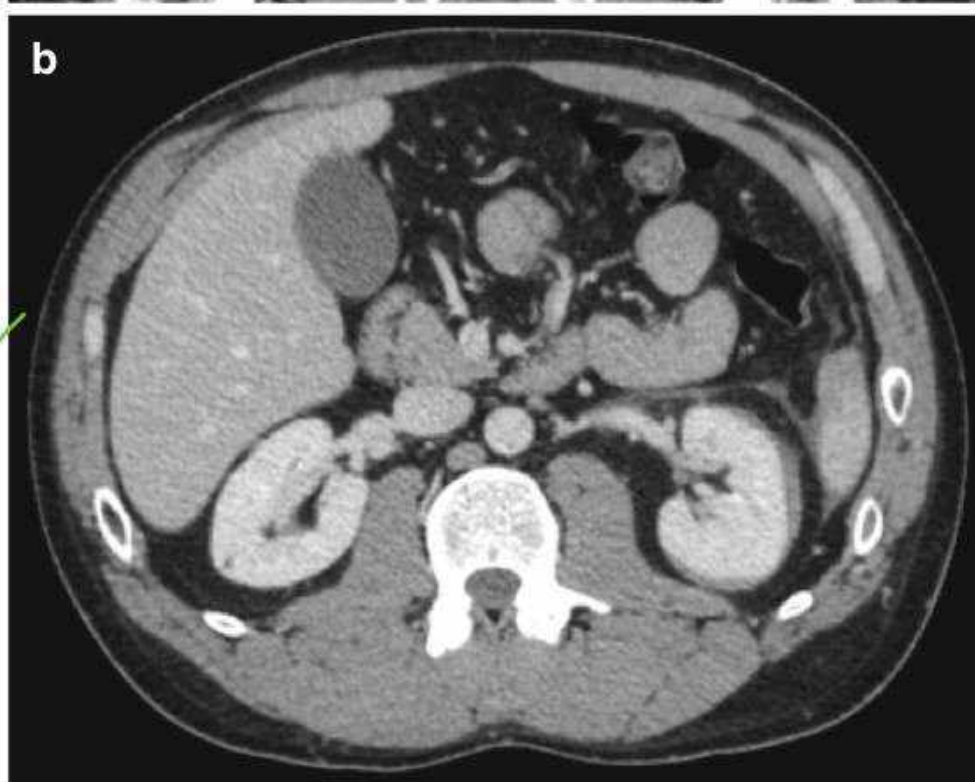
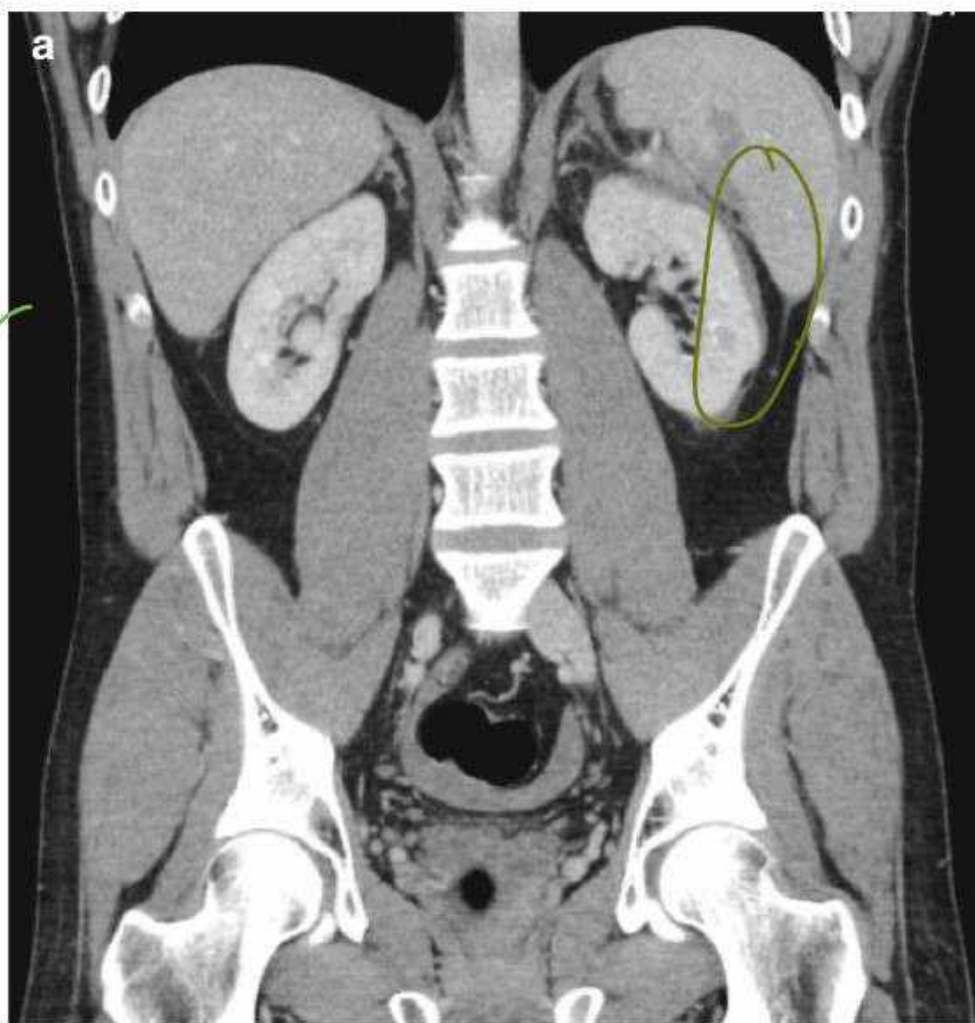
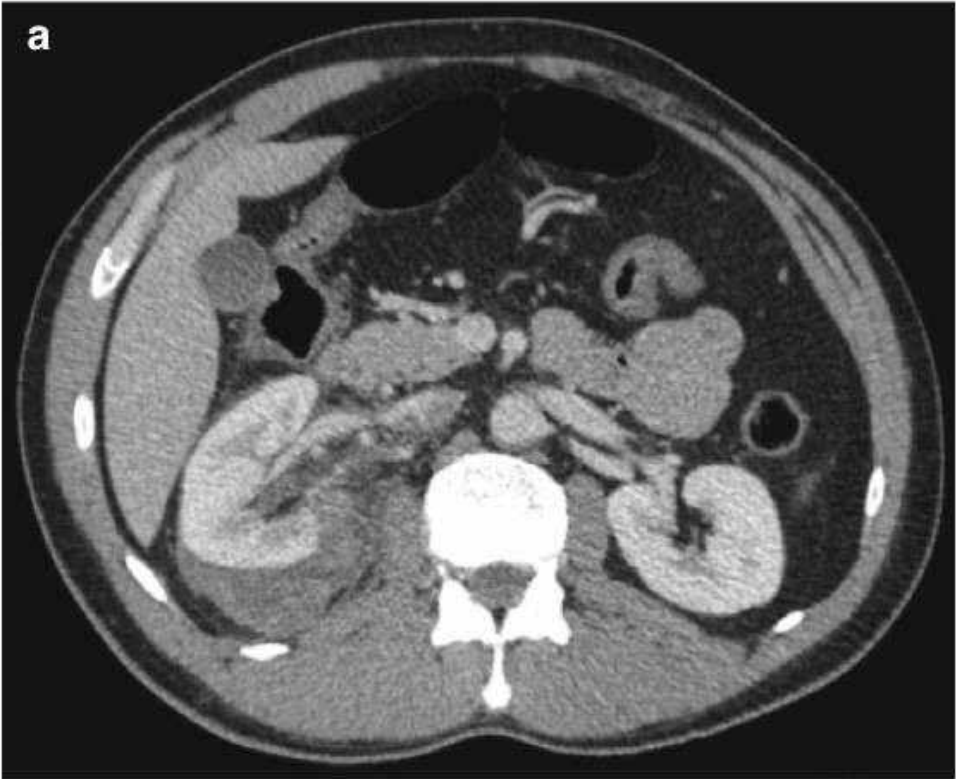


Fig. 2.3.2



**Answers to Case 2.3**

1. Figure 2.3.1a,b are postcontrast coronal and axial CT images through the abdomen. There is a crescentic low attenuation region following the convexity of the left renal cortex, compatible with subcapsular haematoma. The left kidney is normal. There is also linear low attenuation within the spleen, consistent with a laceration and a small amount of free fluid tracking medially from the spleen. This is a Grade I renal injury.

Figure 2.3.2a,b are post-contrast axial images through the kidneys showing a low attenuation region posteromedially in the right kidney, extending into the renal pelvis. In the context of recent trauma this represents a laceration. This extends outside the kidney resulting in a perinephric haematoma or collection. On the delayed phase image (Fig. 2.3.2b) contrast excreted into the collecting system has also leaked into the collection confirming damage to the collecting system i.e. grade IV injury.

2. The American Association for the Surgery of Trauma (AAST) classification is most commonly used.

Grade I – Renal contusion or small non-expanding subcapsular haematoma associated with microscopic or rarely macroscopic haematuria.

Grade II – Parenchymal laceration (<1 cm) in renal cortex only. May be associated with minor perinephric haematoma.

Grade III – Laceration (>1 cm) extending from cortex into medulla, but sparing the collecting system. May be associated with significant retroperitoneal haematoma.

Grade IV – Laceration (>1 cm) associated with collecting system or segmental renal vessel damage with contained haemorrhage or thrombosis within vessel.

Grade V – Shattered kidney or renal vessel avulsion.

Blunt trauma causing grades I–IV trauma can usually be treated conservatively. Life-threatening haemodynamic instability, due to renal haemorrhage, is an absolute indication for renal exploration, as is an expanding or pulsatile perirenal haematoma identified at laparotomy performed for associated injuries.

Grade V vascular renal injuries are, by definition, regarded as an absolute indication for exploration, though there have been reports of shattered kidneys being managed conservatively. Penetrating injuries are frequently explored to exclude abdominal visceral injuries. Renal injuries with urinary extravasation and devitalised fragments may be managed conservatively or endoscopically if the patient is haemodynamically stable. These injuries are, however, associated with an increased rate of complications.

3. Figure 2.3.3 is a nephrectomy specimen following a road traffic accident, the lower pole was avulsed. This patient was haemodynamically unstable as a result of a ruptured spleen and an expanding retroperitoneal haematoma was found at laparotomy. A matched transfusion (MCT) should be performed on the specimen.



Fig. 2.5.1



Answers to Case 2.5

1. Axial (Fig. 2.5.1a) and coronal MPR* (Fig. 2.5.1b) images through the left kidney. The left kidney is enlarged and contains multiple large, round, low attenuation (~10–30 Hounsfield units) lesions, but maintains a normal shape. The low attenuation lesions represent enlarged calyces, abscesses or granulomas. This is sometimes called the bear paw sign. A few calculi are seen within the kidney (but not obstructing the renal pelvis—obstructing calculi are seen in 75% of cases with this condition). There is perinephric stranding and thickening of Gerota's fascia. Appearances are of Xanthogranulomatous pyelonephritis (XGP).

Figure 2.5.1c is a nephrectomy specimen with thickened and dilated upper ureter and pelvis. Yellow deposits produce space-occupying lesions throughout the kidney and extend into adipose tissue adjacent to the upper pole. Microscopically the yellow deposits are a xanthogranulomatous inflammatory reaction. This is a chronic inflammatory process in which lipid-laden histiocytes destroy the renal parenchyma with potential extension of an inflammatory mass into the perinephric space adjacent psoas muscle and posterior abdominal wall. Squamous cell carcinoma is a rare complication.

When it extends outside the kidney, XGP may mimic tumour. No radiological features are definitive of XGP, but the low density lesions in the presence of an obstructive calculus, which is often a staghorn, are highly suggestive. Diagnosis is made histologically by the presence of foamy lipid-rich macrophages accompanied by acute and chronic phase inflammatory cells.

2. Antibiotics and conservative therapy do not tend to be successful. Nephrectomy is the treatment of choice, with the removal of all the granulomatous tissue to prevent ongoing inflammation leading to fistula formation. Partial nephrectomy may be appropriate if only a part of the kidney is involved.

Further Reading

- Craig WD, Wagner BJ, Travis MD. Pyelonephritis: radiologic-pathologic review. *Radiographics*. 2008;28(1):255–277.
- Korkeš F, Favoreto RL, Bróglia M, Silva CA, Casro MG, Perez MD. Xanthogranulomatous pyelonephritis: clinical experience with 41 cases. *Urology*. 2008;71(2):178–180.

Fig. 2.9.1

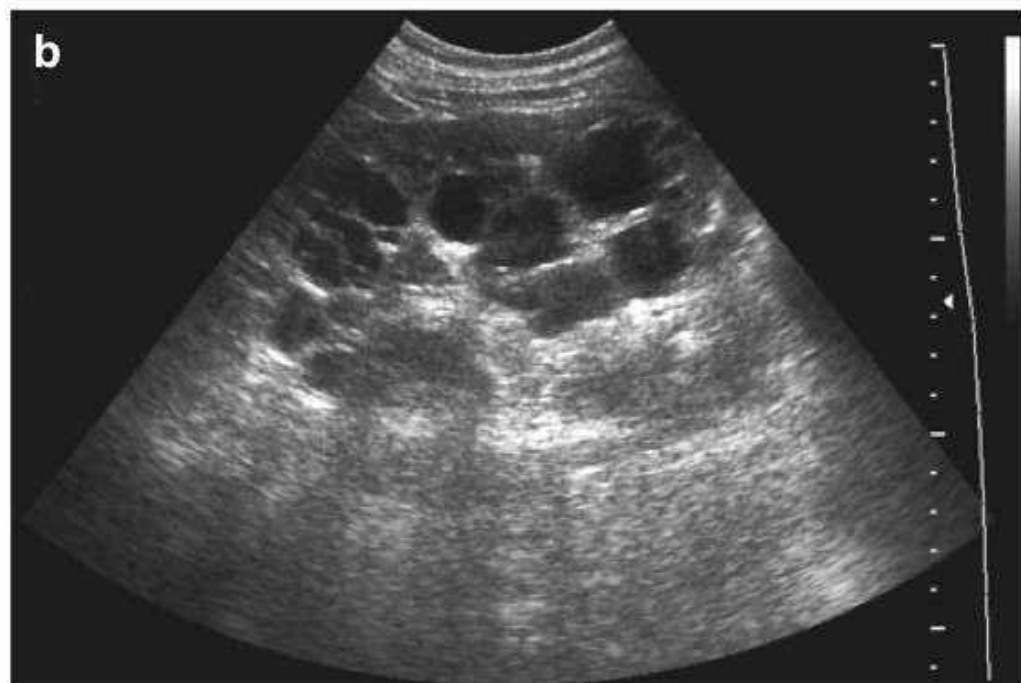
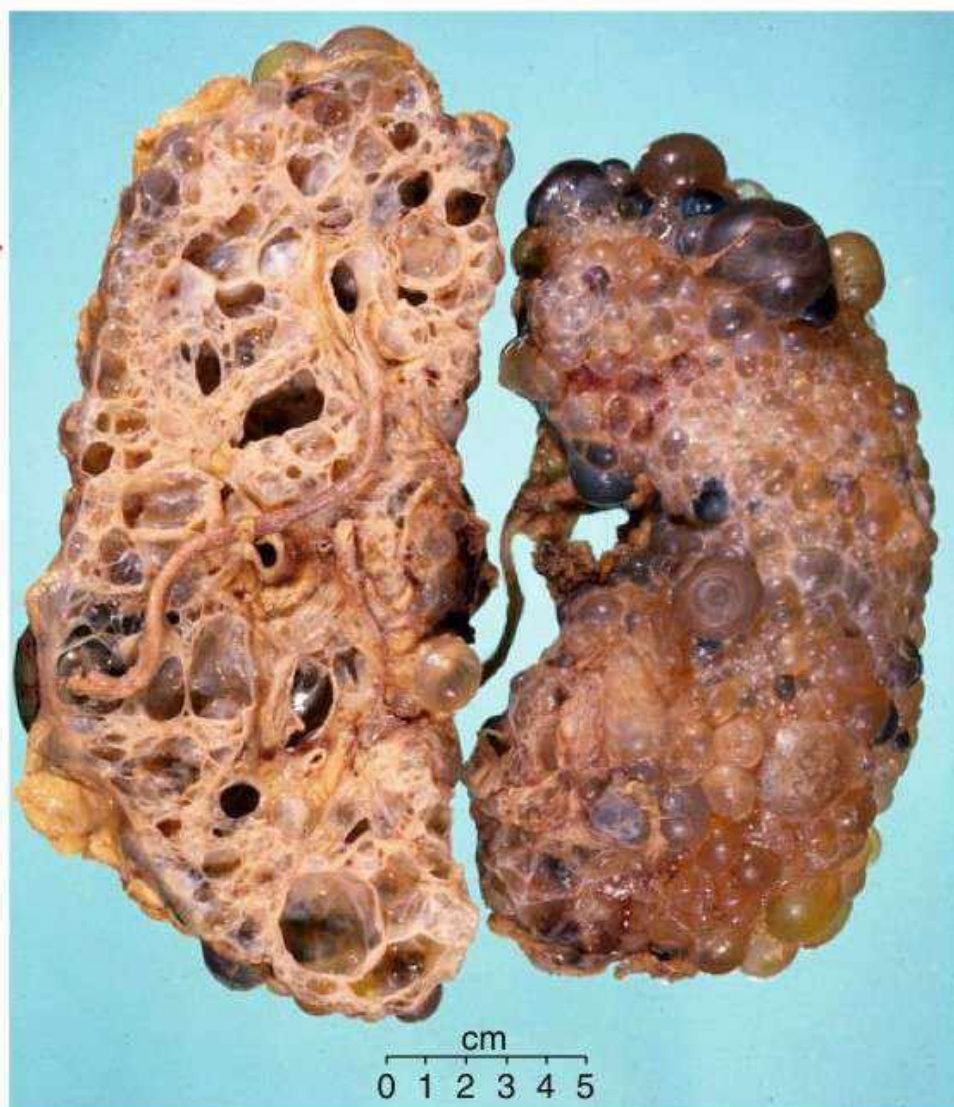


Fig. 2.9.2



**Answers to Case 2.9**

- Both the CT (Fig. 2.9.1a) and USS (Fig. 2.9.1b) images show multiple bilateral renal cysts. Although no pre-contrast CT is available to fully characterise the cysts, the overall appearances are of numerous bilateral simple (or Bosniak type I) cysts. One to three simple cysts in this age group would be consistent with normal age-related simple cysts, but the numerous bilateral cysts as seen in this case, is in keeping with an underlying renal cystic syndrome.
- In an adult, the most common renal cystic syndromes are autosomal dominant polycystic kidney disease (ADPKD), von Hippel Lindau (VHL) disease, tuberous sclerosis (TS).
- The family history of possible subarachnoid haemorrhage makes ADPKD most likely, as this is associated with intra-cerebral aneurysms. This condition is associated with at least two different genetic mutations: ADPKD1 on chromosome 16p in 85–90% of patients, ADPKD2 on chromosome 4q in 5–15%.
- Associations and complications are listed below:
 - Renal: Large kidneys with multiple renal cysts which can become infected or haemorrhage. Pain and haematuria. Progressive renal failure – 50% develop end stage renal failure. Calculi and renal cyst calcification
 - Other cysts: liver, pancreas, seminal vesicles, testis, ovary
 - Cardiovascular: hypertension, thoracic aortic aneurysm
 - Neurological: Berry aneurysm causing subarachnoid haemorrhage.
- Figure 2.9.2 shows bilateral nephrectomy specimens for ADPK prior to transplantation showing cut and outer surfaces. The kidney parenchyma is replaced by cysts of varying size with focal haemorrhage. Nephrectomy is performed in these cases in the event of pain, due to size, bleeding, cystic infection or malignant transformation.

Further Reading

Wilson PD. Polycystic kidney disease. *N Engl J Med*. 2004;350(2):151–164.

Fig. 2.22.1

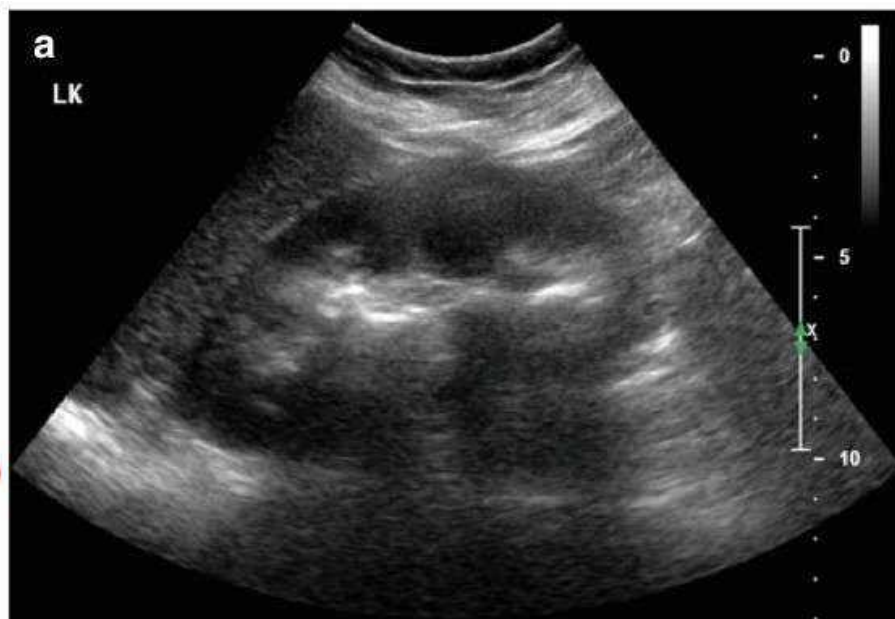
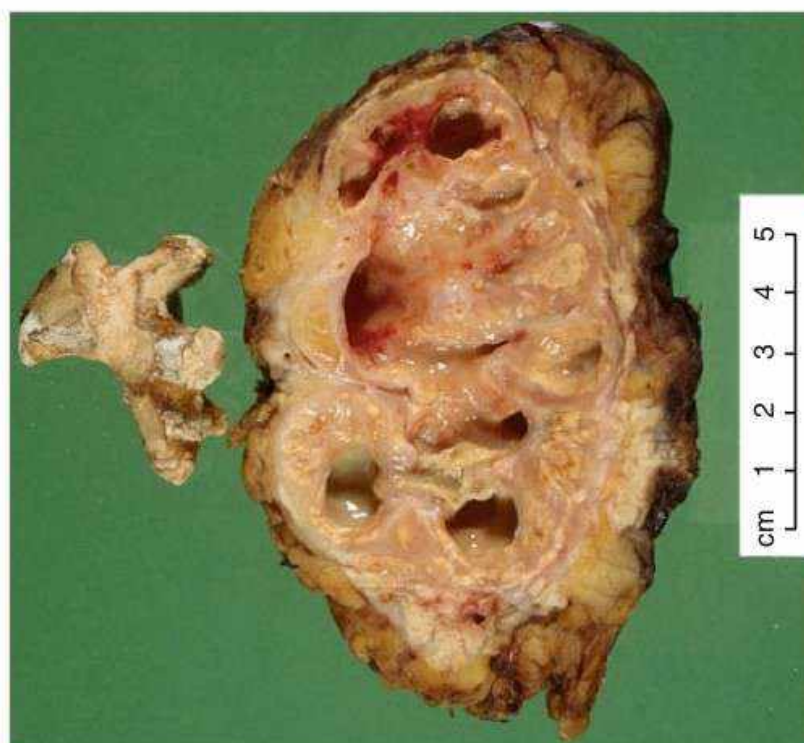


Fig. 2.22.2



**Answers to Case 2.22**

1. The ultrasound scan (Fig. 2.22.1a) demonstrates a large echogenic lesion occupying the central portion of the left kidney which casts an acoustic shadow. The coronal MIP CT image (Fig. 2.22.1b) shows a large calcified stone which completely opacifies the left renal pelvicalyceal system. A small stone is also seen in the infundibulum to a lower pole calyx of the right kidney. The appearance on the left is of a staghorn calculus which is composed of calcium magnesium ammonium phosphate (struvite).
2. Complications of this are recurrent urinary tract infections which may lead to pyonephrosis or renal abscess formation. Renal obstruction and eventual renal loss may be seen. Patients may rarely progress to develop xanthogranulomatous pyelonephritis (XGP) as shown in Fig. 2.22.2, where the staghorn calculus has been removed from the surgical specimen in which the kidney had been extensively destroyed by a xanthogranulomatous inflammatory response.
3. Firstly the presence of infection should be excluded. If present it should be aggressively treated, the additional placement of a ureteric stent or nephrostomy to relieve any obstructive pyonephrosis may be required. The residual renal function should be measured (by a DMSA or MAG3 nuclear medicine test). Then depending on the patient's co-morbidities and the likelihood of recovery of renal function either percutaneous nephrolithotomy, open pyelolithotomy or nephrectomy are the main treatment options.

Further Reading

Preminger GM, Assimos DG, Lingeman JE, Nakada SY, Pearle MS, Wolf JS Jr. AUA nephrolithiasis guideline panel. Chapter 1: AUA guideline on management of staghorn calculi: diagnosis and treatment recommendations. *J Urol*. 2005;173(6):1991-2000.

**Answers to Case 5.11**

1. The first image (Fig. 5.11.1) is a sagittal ultrasound scan showing a thin-walled cystic structure. It is transonic and of water density internally, and therefore is not a soft tissue mass. True cysts of the bladder are excessively rare and the most likely diagnosis is an ureteroceles, especially in the context of the history. This was confirmed by a CT urogram study as shown in Fig. 5.11.2a, b. Figure 5.11.2a is a curved re-format study, i.e. the images have been post-processed such that the line of the reconstruction has been curved to follow the orientation of the ureter. The ureter is thus shown as a straightened structure. The ureteroceles is clearly demonstrated protruding into the bladder. Figure 5.11.2b is an axial CT scan image showing a left-sided ureteroceles.
2. Figure 5.11.2a demonstrates the "Cobra head" sign. The head being the ureteroceles, and the tail is represented by the ureter, which may or may not be dilated.
3. Ureteroceles can either be a solitary finding or part of a duplex system; and the ureteroceles may be causing functional obstruction or not. Thus further radiological studies that may help would be a direct or indirect micrurating cystogram to look for reflux. Functional obstruction should be objectively quantified with nuclear scintigraphy, e.g. a Mag3 or DTPA scan; and if the affected kidney is scarred on USS or CT scans, then a nuclear medicine (DMSA) test to document the residual renal function as a poorly functional kidney with a ureteroceles may be better removed than salvaged.

Further Reading

Dyer RB, Chen MY, Zagoria RJ. Classic signs in uroradiology. *Radiographics*. 2004; 24(Suppl 1):S247-S280.

Fig. 5.17.1



Fig. 5.17.2



Fig. 5.17.3



Answers to Case 5.17

1. Figure 5.17.1 is a **transverse CT scan showing a left-sided bladder calculus**. Bladder stones occur in approximately 0.5% of **men with bladder outflow obstruction (BOO)**. **Incomplete bladder emptying is believed to be the underlying cause**. Following standard evaluation for BOO the stones are removed either **endoscopically or if large or numerous through an open cystolithotomy**. Relief of the obstruction by TURP or laser outflow surgery may be performed either at the same sitting or as a staged procedure.
2. Figure 5.17.2 is a **KUB radiograph showing a patient with bladder ectropathy with at least three bladder stones, and widened pubic symphysis (diastasis)**.
3. **On USS, bladder stones are typically hyperechoic, cast an acoustic shadow and mobile**, as shown in Fig. 5.17.3. The latter is the most important finding as it distinguishes a calculus from a fixed calcified mass in the bladder wall, e.g. a calcified TCC.

The sonographic features of all calculi, whether uric acid or calcium/magnesium containing, are similar. It is not possible to distinguish stone content on ultrasound. However, on CT uric acid stones (and also cysteine and struvite stones) are of lower density than calcium and magnesium containing calculi. Pure uric acid stones are not visible on plain X-ray. **The only stones that are invisible on all imaging modalities are certain drug-related calculi, e.g. indinavir-related stones.**

Further Reading

- Hamid R, Robertson WG, Woodhouse CRJ. Comparison of biochemistry and diet in patients with enterocystoplasty who do and do not form stones. *BJUJ*. 2008;101:1427-1432.
- Wasson JH, Reda DJ, Bruskewitz RC, et al. A comparison of transurethral surgery with watchful waiting for moderate symptoms of benign prostatic hyperplasia. The Veterans Affairs Cooperative Study Group on Transurethral Resection of the Prostate. *N Engl J Med*. 1995;332:75-79.

**Answers to Case 7.16**

- Figure 7.16.1a-c demonstrate multiple punctate echogenic foci. The appearances are consistent with testicular microlithiasis (TM). The prevalence of microlithiasis varies between 0.5 and 2%, with a higher prevalence noted in African American males. Sonographic definitions of testicular microlithiasis vary, but it is broadly accepted that five or more hyperechoic foci measuring ≤ 2 mm, with absent posterior acoustic shadowing, in either or both testes on at least one image is in keeping with this condition.
- Most patients do not have an underlying associated condition, although it has been described in association with a multitude of conditions, including Klinefelter syndrome, undescended testis and Acquired Immune Deficiency Syndrome (AIDS).
- The clinical significance of testicular microlithiasis arises from the observation that in patients with germ cell tumours areas of calcification (<200 μ m) may be found in the seminiferous tubules. The issue of whether TM is associated with a predisposition to GCT has been addressed in a number of studies. Many of these studies were performed in groups already at high risk of testicular malignancy, and are further limited by their retrospective nature and short follow-up period. The number of reports documenting testicular cancer following previous ultrasound evidence of microlithiasis remains low. Thus, no causal relationship between testicular microlithiasis and malignancy has been proven. Although follow-up strategies are still debated, it is now acceptable to recommend careful self-examination, with repeat referral to the urologist reserved for any palpable abnormality, as the financial costs of an ultrasound-based screening programme are not justified.

Further Reading

- Costabile RA. How worrisome is testicular microlithiasis? *Curr Opin Urol*. 2007;17(6):419-423.
- Janzen DL, Mathiesen JR, Marsh JJ, Cooperberg PL, del RP, Golding RH, et al. Testicular microlithiasis: sonographic and clinical features. *AJR Am J Roentgenol*. 1992;158(5):1057-1060.
- Peterson AC, Hamman JM, Light DE, McManis LP, Costabile RA. The prevalence of testicular microlithiasis in an asymptomatic population of men 18 to 35 years old. *J Urol*. 2001;166(6):2061-2064.

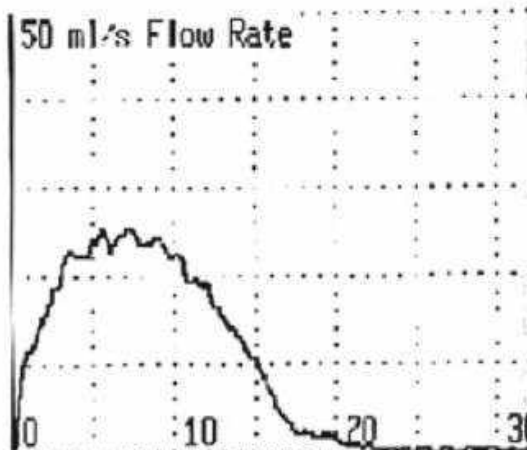
**Answers to Case 8.11**

1. Figure 8.11.1 shows a **near 90° lateral curvature** of the midshaft of the penis. The diagnosis is **Peyronie's disease**. The features include **penile pain, curvature and flaccidity distal to the curve. A fibrous plaque may be palpable on the tunica albuginea**.
2. **A good history of the curvature should include duration of problem, associated pain, degree of curvature (and whether stable) and erectile function. Palpation for a plaque in the flaccid state and photography or injection of the penis with a vasoactive agent may be required to formally document curvature.**
3. Cavernosography, plain radiography and CT have all been used to assess acquired penile curvature. **Ultrasonography, with or without intra-cavernosal injection of a vasoactive substance, is the most useful and readily available imaging investigation. It can help define the anatomy of the plaque, especially if calcified, and evaluate the corporal bodies for scar tissue.** It is also useful for haemodynamic evaluation of the erectile circuit and gives functional information to help in management decisions. Figure 8.11.2 is a longitudinal grey-scale ultrasound image showing a long calcified tunical plaque along the dorsal surface of the cavernosa. MRI of the penis can also be used for anatomical information, but has not been as thoroughly studied.

Further Reading

Smith JE, Walsh TJ, Lue TF. Peyronie's disease: a critical appraisal of current diagnosis and treatment. *Int J Impot Res*. 2008;20(5):445-459.

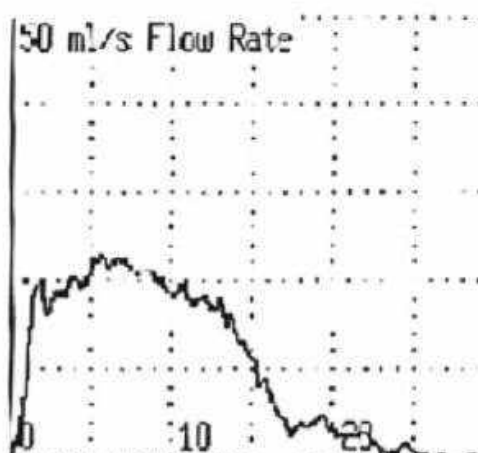
Taylor FL, Levine LA. Peyronie's Disease. *Urol Clin N Am*. 2007;34:517-534.



Results of LROFLOWMETRY

11:15

Voiding Time	T100	30	s
Flow Time	TQ	24	s
Time to max Flow	TQmax	7	s
Max Flow Rate	Qmax	25.5	ml/s
Average Flow Rate	Qave	13.0	ml/s
Voided Volume	Vcomp	310	ml



Results of MRCFLOWMETRY

12:00

Voiding Time	T100	29	s
Flow Time	TQ	25	s
Time to max Flow	TQmax	5	s
Max Flow Rate	Qmax	23.1	ml/s
Average Flow Rate	Qave	12.1	ml/s
Voided Volume	Vcomp	303	ml

Fig. 9.20.1

**Answers to Case 9.20**

1. Both curves in Fig. 9.20.1 show a maximum flow rate of >20 ml/s for a voided volume of >300 ml. There is a steep rise in flow rate and the maximum flow rate is achieved within the first third of flow time. The flow time is also <20 s in both cases.
2. **These flow studies appear normal.** The flow parameters are within normal limits and the curves are bell shaped. However, this does not necessarily exclude a urodynamic abnormality. For example, this may be compensated mild outflow obstruction and the normal flow rates are being achieved only at the expense of high voiding pressures.



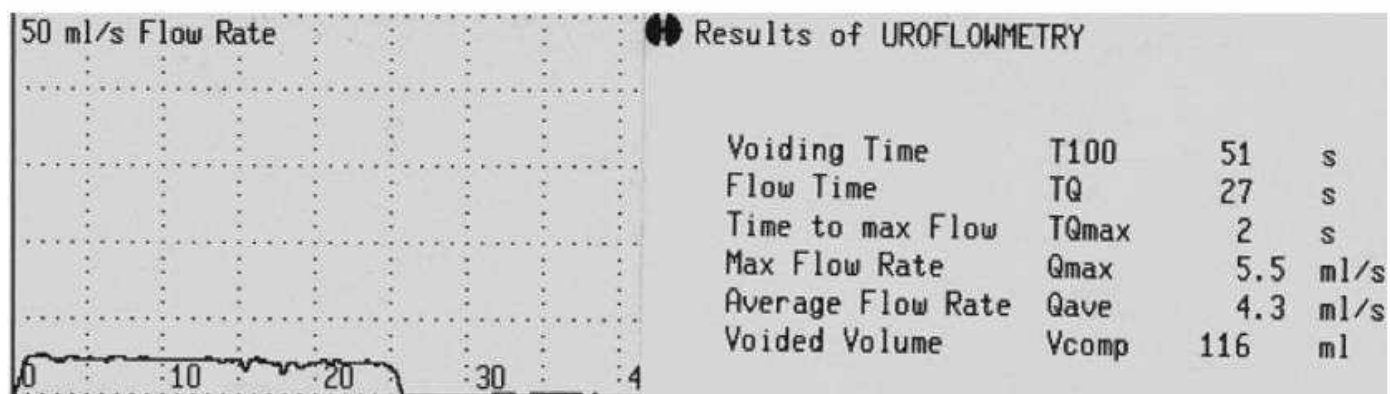
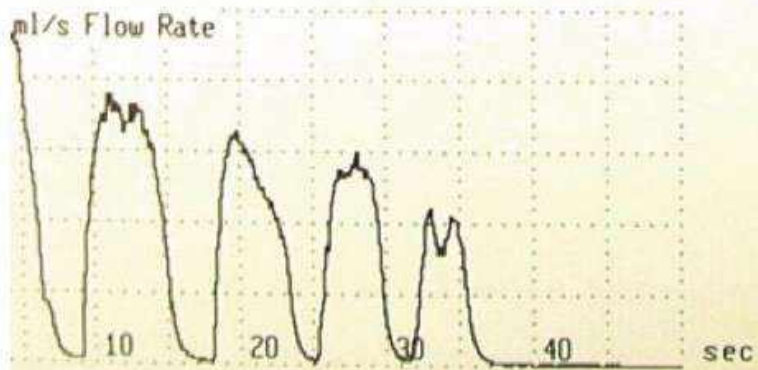


Fig. 9.21.1

**Answers to Case 9.21**

1. There seems to be a fixed obstruction as the flow rate goes up and then plateaus. The maximum flow rate is very poor (5.5 ml/s). It has taken more than 20 s to pass only 116 ml.
2. This is the typical flow rate of a patient with urethral stricture.





Results of UROFLOWMETRY

Voiding Time	36	s
Flow Time	33	s
Time to max Flow	1	s
Max Flow Rate	25.3	ml/s
Average Flow Rate	11.1	ml/s
Voided Volume	369	ml

Fig. 9.22.1

**Answers to Case 9.22**

1. Figure 9.22.1 is a typical flow pattern caused by abdominal straining. The patient may have obstruction or a hypocontractile detrusor.
2. Yes, this pattern can be artefactual, created by the phenomenon of "pinching". This entails pinching and letting go of penis. Pinching creates a urinary jet that hits the rotating disc of the flow meter and a high flow rate is momentarily recorded, which rapidly tails off when the pinch is released, resulting in this unusual pattern.



Renal agenesis is shown on excretory urography (EU) and computed tomography (CT). Figure 1.1, EU shows a functioning left kidney excreting contrast medium to the left renal pelvicalyceal system and flowing downward to the left ureter and urinary bladder. Note nonvisualization of the right kidney. Figure 1.2, coronal reformat image of enhanced CT (Fig. 1.2a), axial image of unenhanced CT (Fig. 1.2b), and axial enhanced CT of excretory phase (Fig. 1.2c) show a normal left kidney (*white arrows*) located in the left renal fossa. In the corresponding anatomical location as the right renal fossa, there is absence of the right kidney. Instead, posterior segment of the right lobe (*black arrows*) of the liver occupies the presumed right renal fossa anatomical space.

Fig. 1.1

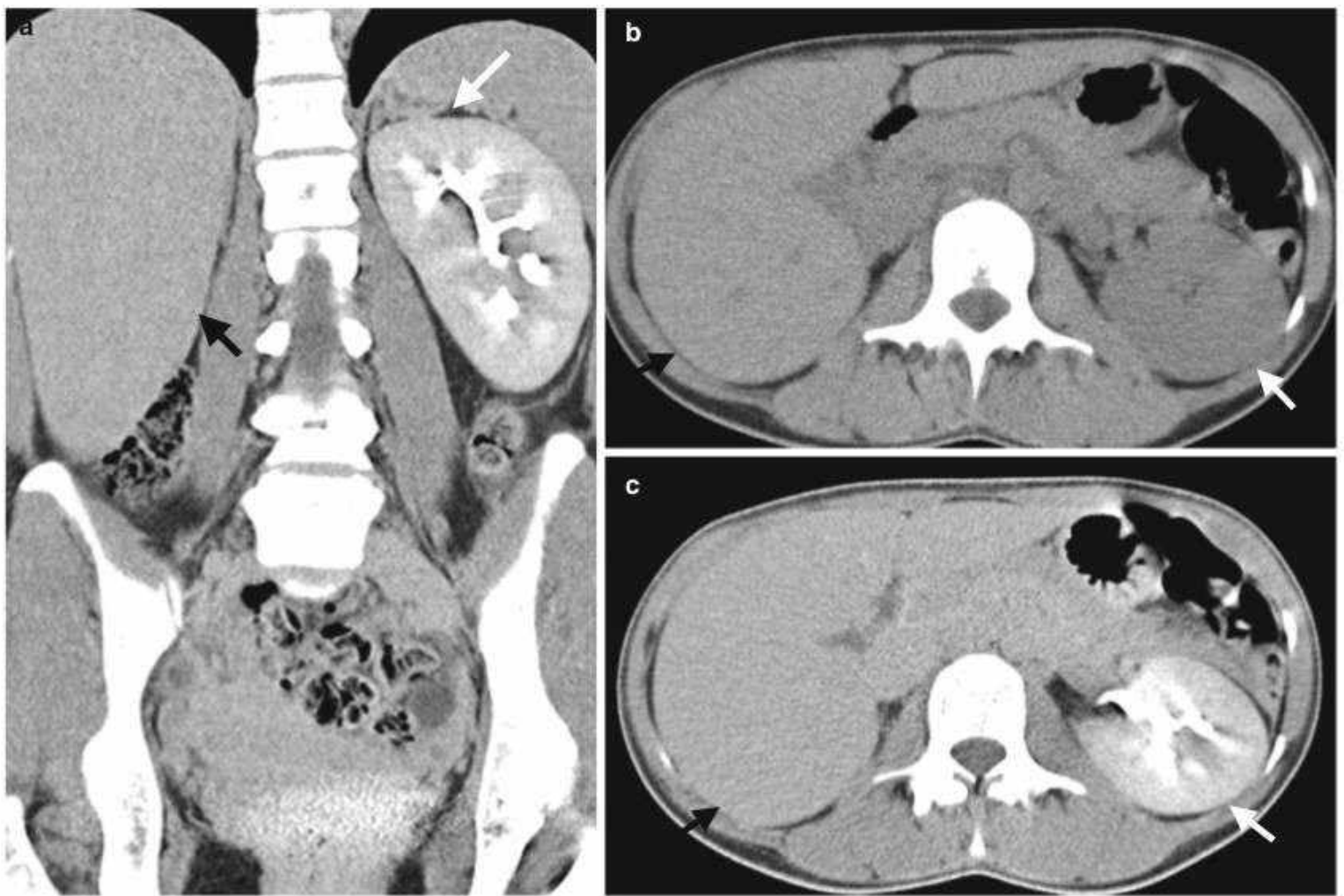


Fig. 1.2

Key Diagnostic Features

Renal agenesis is a congenital anomaly with complete absence of kidney [1]. Renal agenesis usually affects one kidney and rarely both kidneys. Renal agenesis is associated with the ipsilateral absence of the ureter and hemitrigone of the urinary bladder as well as genital or reproductive abnormalities [1]. By definition of renal agenesis, a diagnosis of renal agenesis is established by not only complete absence of a kidney in renal fossa but also in any other parts of the body. If there is any sign of residual or atrophic renal tissue on one side of the body, a diagnosis of renal agenesis should be excluded. In addition, acquired or iatrogenic loss of a kidney is not regarded as renal agenesis by its nature to be a congenital anomaly.

Main Differential Diagnoses

1. **Ectopic kidney**
In the absence of a kidney in one side of the renal fossa on renal US, there are two main possible diagnoses: renal absence by renal agenesis or nephrectomy and an ectopic kidney. On EU, an ectopic kidney could be recognized and localized if it is functioning. Similarly, CT or MRI is able to localize an ectopic kidney by its reniform, anatomical structure and function.
2. **Nephrectomy [1]**
Complete loss of a kidney is more commonly encountered by nephrectomy than by congenital renal agenesis. A careful search of associated findings of nephrectomy is helpful to differentiate these two conditions. In the presence of surgical clips in renal fossa or right retroperitoneum, incisional scarring at the flank, or a ligated renal arterial stump, renal absence by nephrectomy could be confidently diagnosed. On the other hand, a diagnosis of renal agenesis is more likely in the presence of its associated findings.



Fig. 1.5

Excretory urography (EU) and magnetic resonance imaging (MRI) show a right thoracic kidney. EU of supine image at 30 min after contrast medium administration (Fig. 1.5) shows the right kidney with contrast opacification of the right renal collecting system (arrow) located above the liver shadow and at the right paracardiac area. Unenhanced coronal T1-weighted image (Fig. 1.6a) and axial T2-weighted image (Fig. 1.6b) on MRI show bilateral diaphragmatic eventration. The right kidney (arrows) is located at the subdiaphragmatic area of the right diaphragmatic eventration site. On the other hand, the spleen is located at the subdiaphragmatic area of the left diaphragmatic eventration site.



Fig. 1.6

1.5 Horseshoe Kidney

Case 7

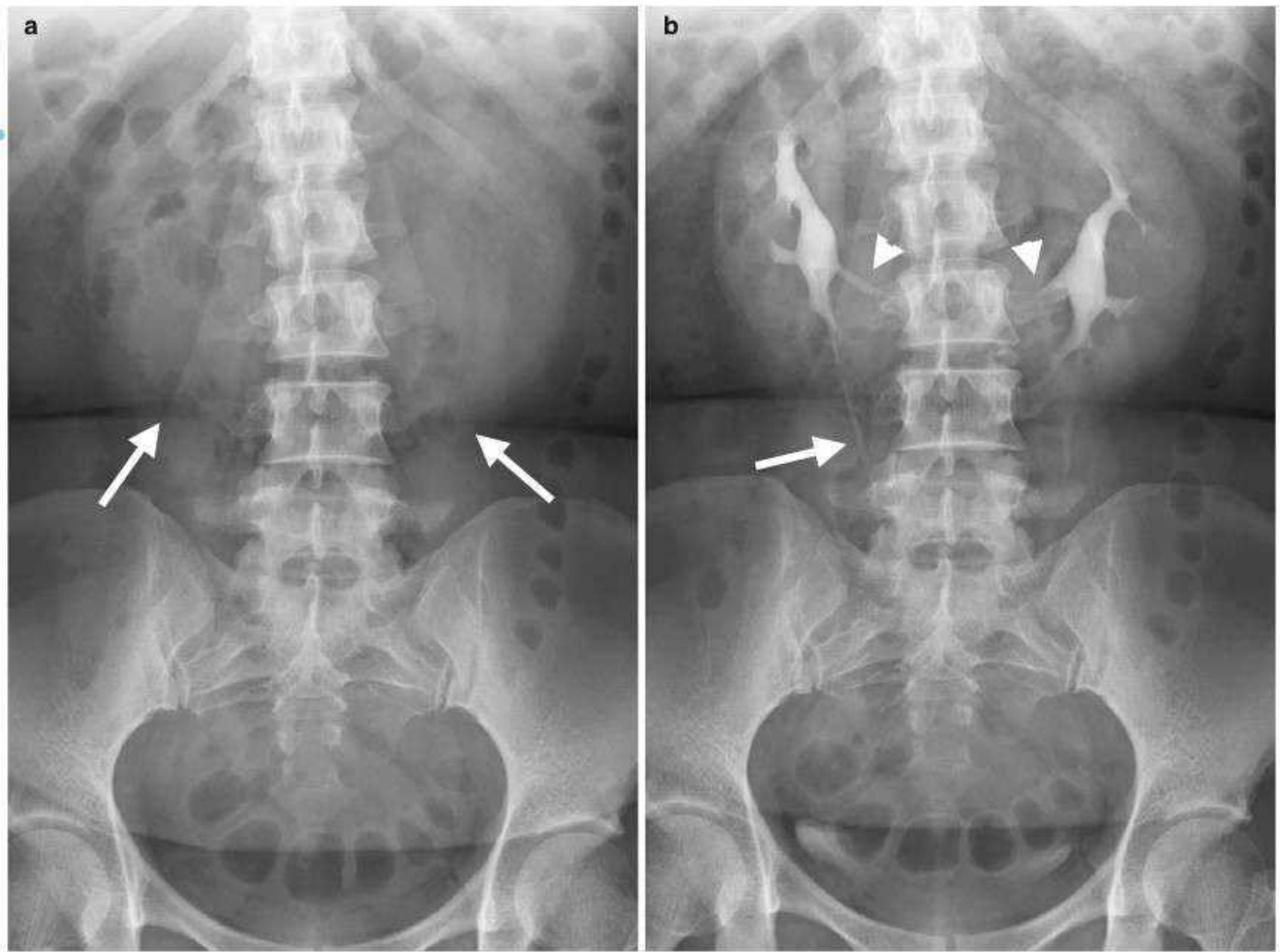


Fig. 1.11

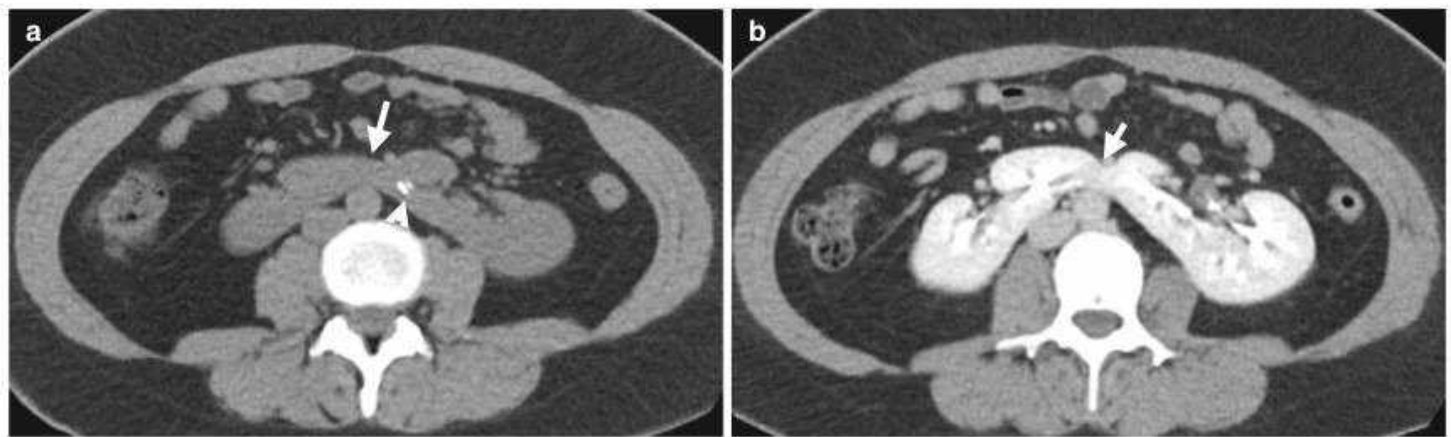


Fig. 1.12

Case 13

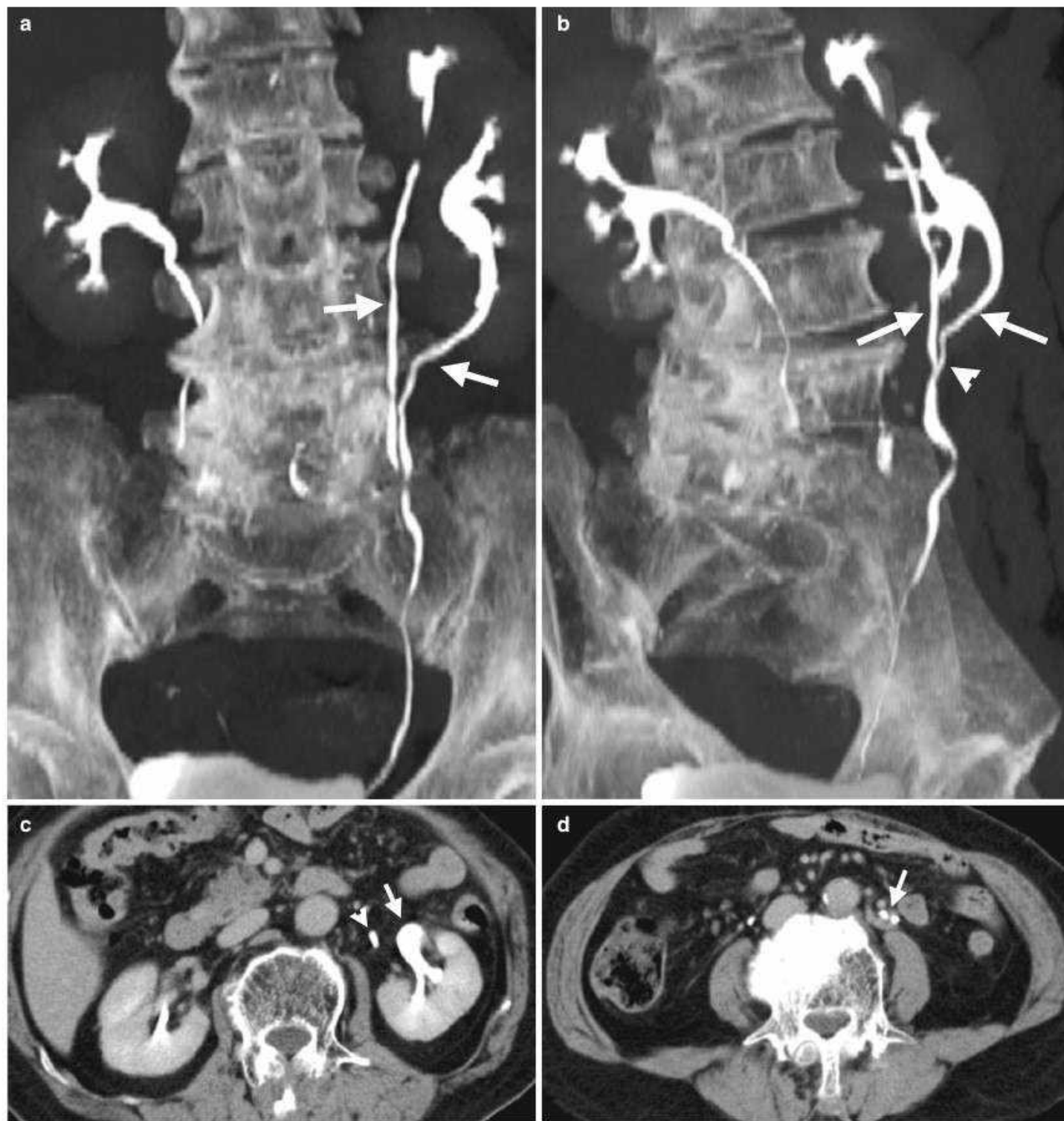


Fig. 1.22



Key_Diagnostic_Features_in_Uro-radiology



1.2 Duplex Urinary

17

Duplex kidney and duplex system are the normal anatomic variants. Figure 1.22a, a coronal CT image using maximal intensity projection (MIP) shows two left renal pelvicalyceal systems. **Two left ureters descend from the upper and lower moieties of the left kidney** respectively. Figure 1.22b, oblique coronal MIP CT image shows fusion (overhead) of the two left renal pelvicalyceal systems. Figure 1.22c, axial CT image shows a renal pelvis (arrow) of the left renal lower moiety and another renal pelvis (arrowhead) of the left renal upper moiety. Figure 1.22d, axial CT image of the lower abdomen level shows two left ureters (arrows) running in parallel.

Key Diagnostic Features

Duplex system are accompanied by duplex kidney. Duplex kidney is characterized by separation of the renal pelvicalyceal system into two parts: the cranial part is termed as upper moiety and caudal part as lower moiety. **If duplex system flow with each other at any lower point, it is called as complete duplex system; otherwise, it is called as incomplete duplex system.** Duplex system of the kidney more common than duplex system. In most instances, both upper moiety and lower moiety have a normal excretory function, and the presence of two ureters is thus easily detected by contrast medium opacification on CT or excretory urography. **The size of the upper moiety is usually small, with only few normal kidneys, and sometimes at the lower end, while the lower moiety is associated with renal dysplasia or malacia.**

2.5 Perinephric Abscess

Case 8

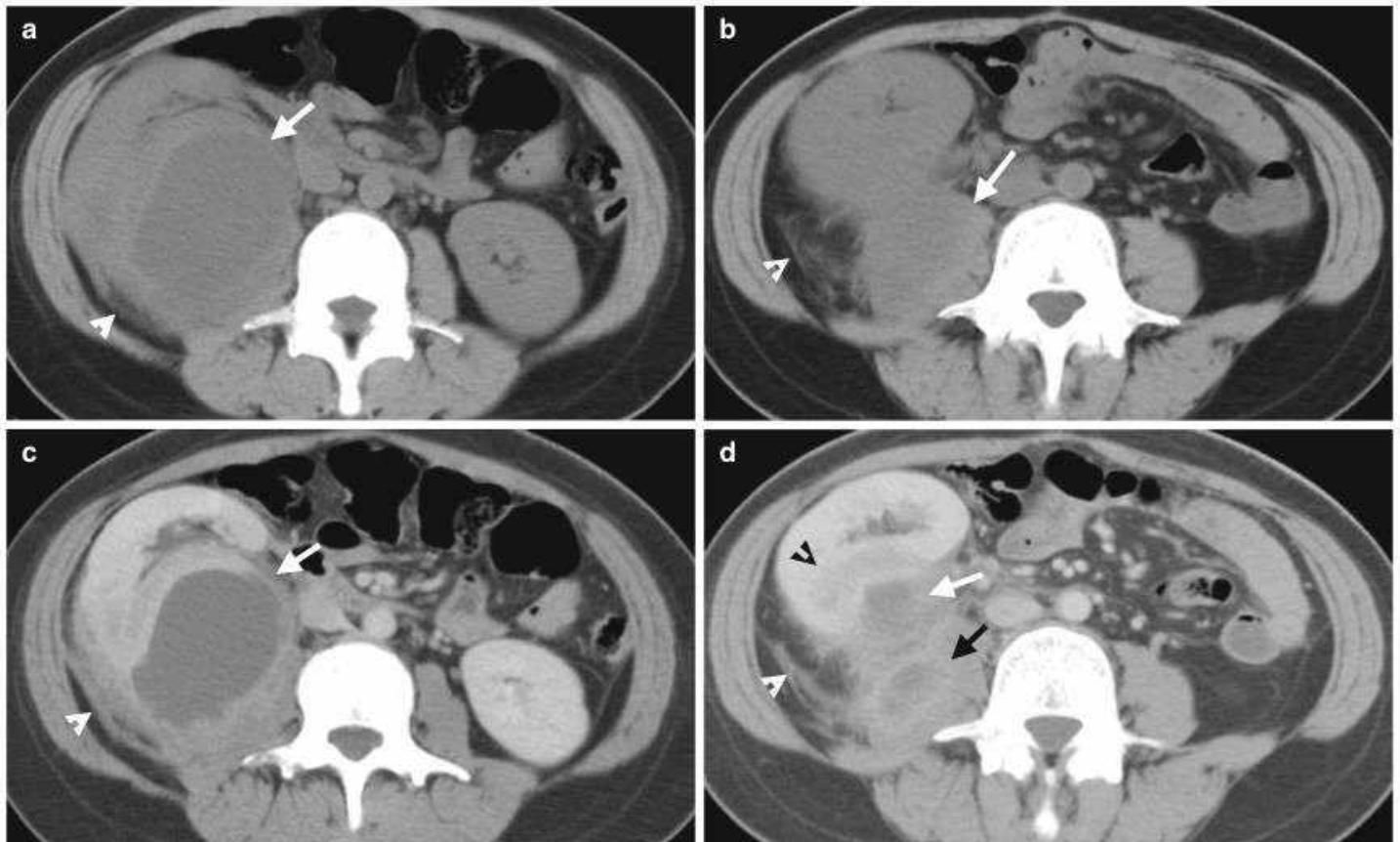


Fig. 2.11

Renal computed tomography (CT) shows imaging features of perinephric abscess. Unenhanced axial renal CT images (Fig. 2.11a, b) show a large cystic mass (arrows) displacing the right kidney anterolaterally. Thickening of the right perinephric fascia is depicted

(arrowheads). Enhanced axial renal CT images (Fig. 2.11c, d) show an abscess with thick wall (arrow) with thickened fascia (arrowhead). Another abscess (black arrow) involving the right psoas muscle is noted.

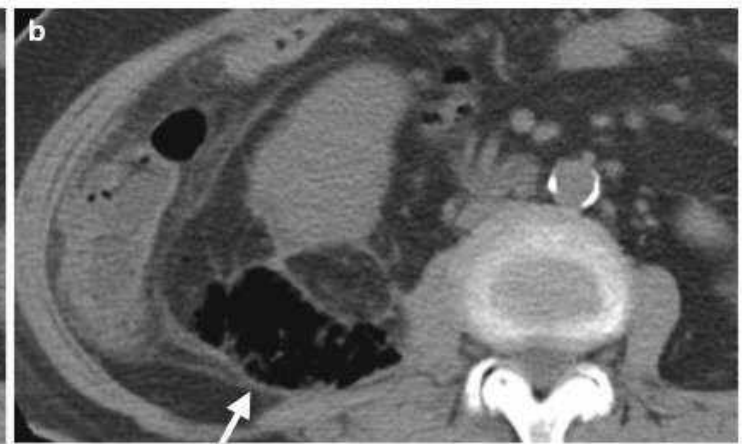
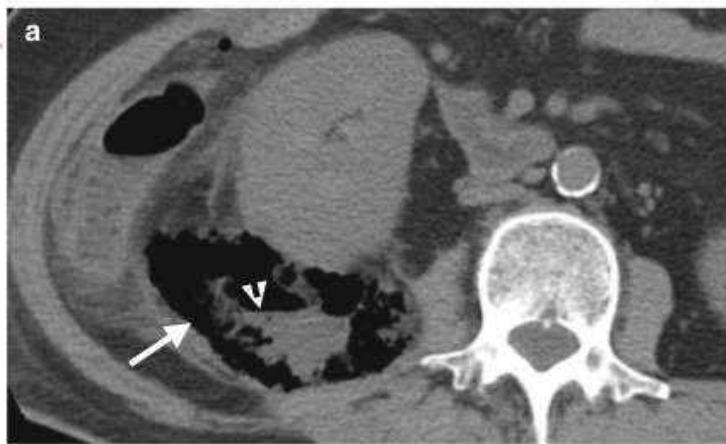


Fig. 2.12

Renal computed tomography (CT) shows a patient with perinephric abscess. Figure 2.12a, unenhanced axial CT images at midportion of the right kidney shows a mixed air and cystic area (arrow) with air-fluid layering (arrowhead). Figure 2.12b, unenhanced axial CT image at the lower pole of the right kidney shows abnormal air collection area (arrow) in the right perinephric space. The right kidney is anteriorly displaced and there is dirty fat in the adjacent pericolic fat of the ascending colon.

Key Diagnostic Features

Perinephric abscess is diagnosed on CT by identifying an abscess located in the perinephric space. A perinephric abscess could present on CT as a cystic mass with thickened

and enhancing wall, a mass with air-fluid layering, a lesion full of air collection, or any combination of the above three pictures. As the perinephric space is contiguous to the kidney and confined in a potentially large perinephric space, a perinephric abscess usually has obvious displacement of the ipsilateral kidney, especially if it is large sized. The compression effect of the adjacent renal parenchyma by a perinephric abscess is usually less evident than the displacement effect.

Main Differential Diagnoses

1. Subcapsular abscess

Subcapsular abscess usually has a lenticular shape with obvious mass effect on the adjacent renal parenchyma. Subcapsular abscess usually has a smaller size than a perinephric abscess due to the confined effect of the renal capsule.

2.8 Emphysematous Pyelonephritis

Case 12

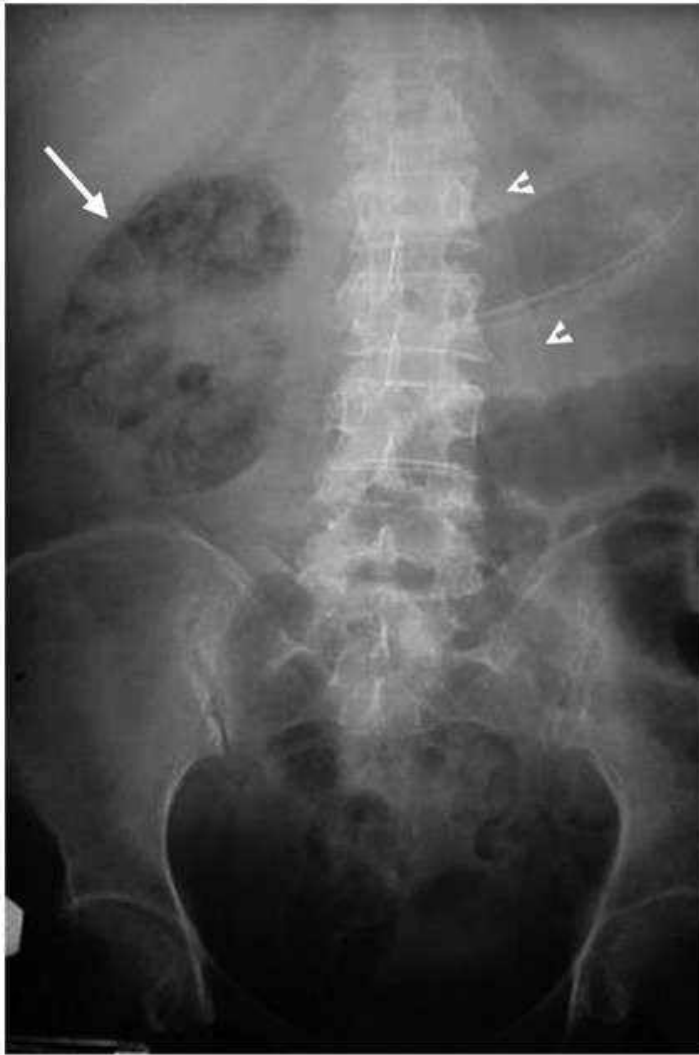


Fig. 2.15



Fig. 2.16

Plain radiograph of the kidney, ureter, and bladder (KUB) and unenhanced computed tomography (CT) show typical imaging sign of emphysematous pyelonephritis. Figure 2.15, KUB shows **mottled air density** collection in a reniform shape (*arrow*) of the right abdomen. The left psoas line (*arrowheads*) is clearly visible. The right psoas line could not be visualized. Figure 2.16, unenhanced axial renal CT image shows the right renal parenchyma being replaced by air density collection (*arrow*) except a small posterior part (*arrowhead*). The pictures on KUB and CT are pathognomonic of emphysematous pyelonephritis.

Case 29

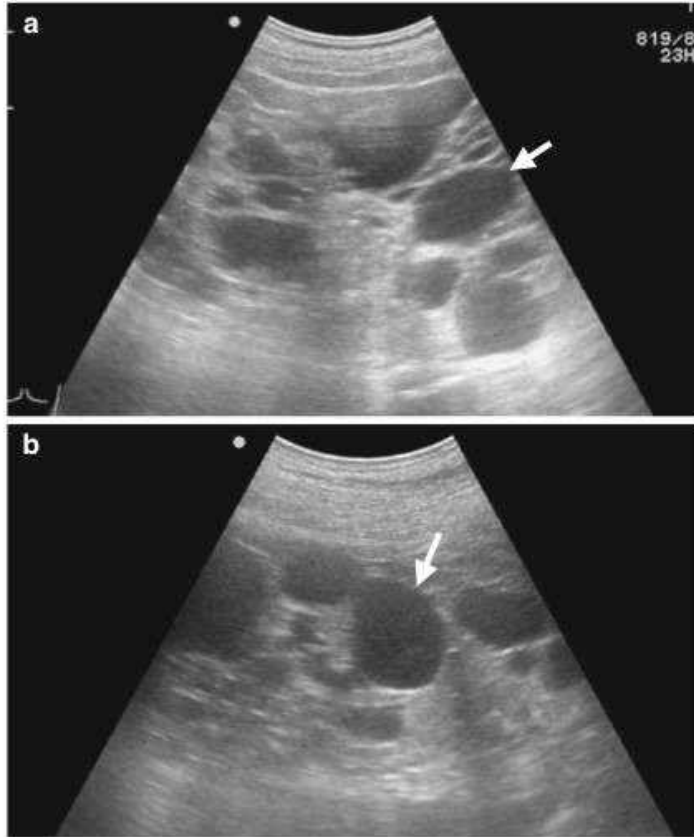


Fig. 3.45

Renal ultrasound shows imaging findings of a patient with autosomal dominant polycystic kidney disease. Right (Fig. 3.45a) and left (Fig. 3.45b) renal ultrasound images show numerous renal cysts of both kidneys as anechoic masses (arrows).

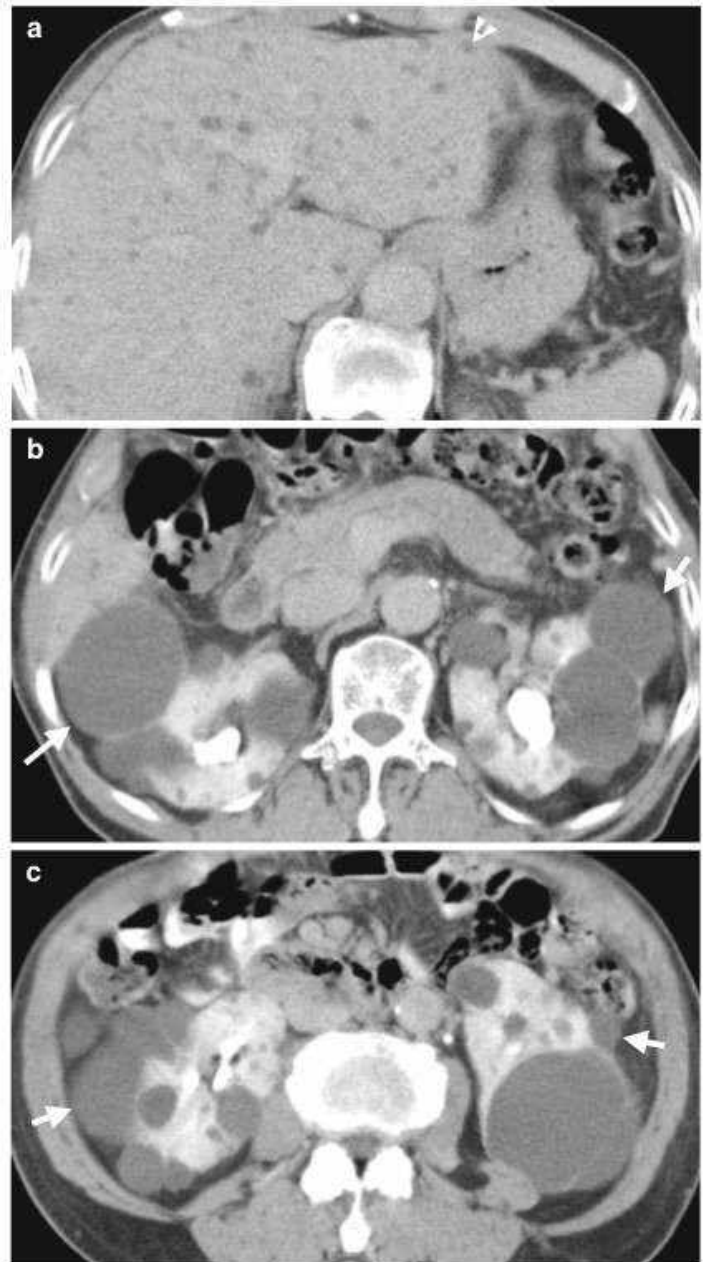


Fig. 3.46

Computed tomography (CT) shows imaging features of autosomal dominant polycystic kidney disease. Enhanced CT at the liver level (Fig. 3.46a) shows multiple liver cysts while enhanced CT images at the renal level (Fig. 3.46b, c) show numerous cysts (arrows) of variable sizes in both kidneys. There is contrast excretion in both kidneys after contrast medium administration.

Case 21



Fig. 5.33

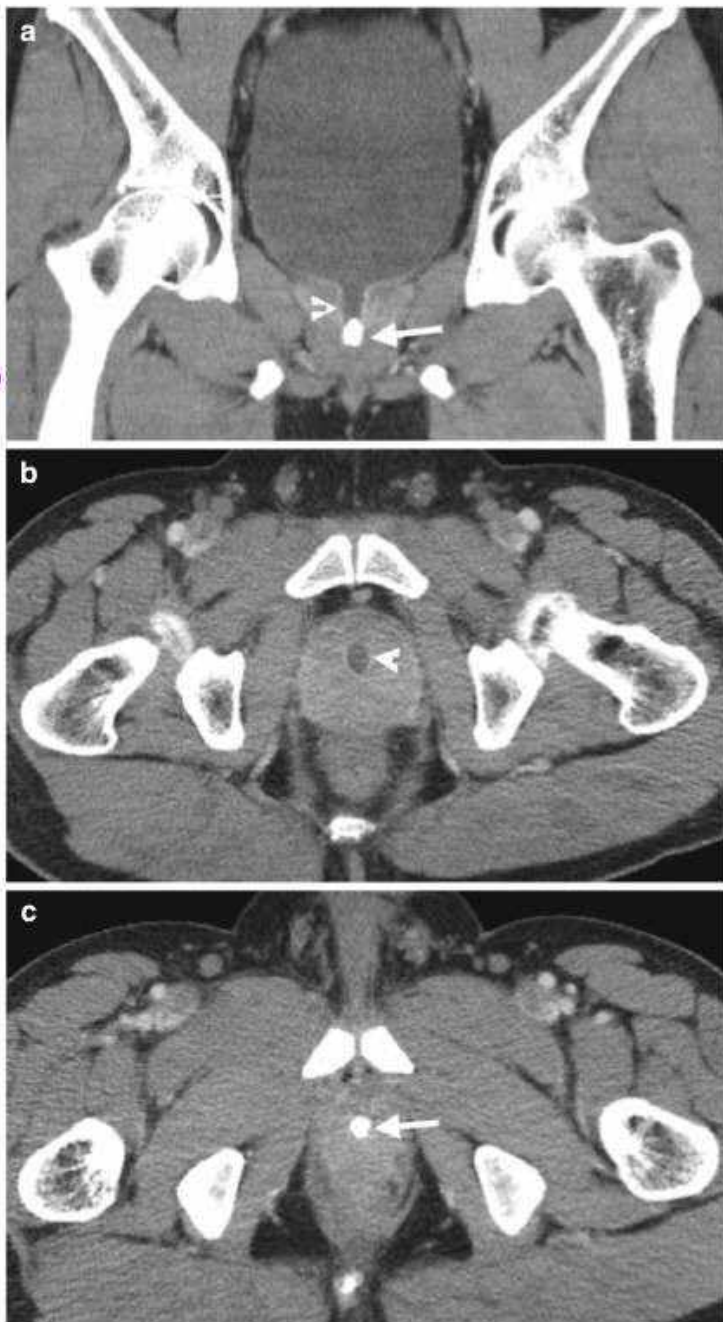


Fig. 5.34

Plain radiography of the kidney, ureter, and bladder (KUB and computed tomography (CT) images show a urethral calculus in a man. Figure 5.33, magnification view of KUB shows a calculus (*arrow*) between inferior margins of the symphysis pubis, consistent with urethral calculus. Figure 5.34a, enhanced coronal CT image shows a dense calculus (*arrow*) at the urethra with proximal urethral dilatation (*arrowhead*). Figure 5.34b, enhanced axial CT image at the prostate gland base level shows mild dilatation of the prostate urethra (*arrowhead*). Figure 5.34c, enhanced axial CT image at the prostate gland apex level shows a calculus (*arrow*) occupying the whole lumen of the urethra.

Key Diagnostic Features

Urethral calculus is more common in men than in women. It is because the male urethra has an anatomical narrowing point at the membranous urethra and is longer than the female urethra. On plain radiograph of the kidney, ureter, and bladder, urethral calculus is highly suggested if a dense focus is shown between the symphysis pubis. On excretory urography, stasis of contrast medium surrounding the calculus after voiding could further support the location of the calculus being in the urethra. On computed tomography, urethral calculus is diagnosed by the depiction of a calcified focus in the urethra with possible associated obstruction findings.



Fig. 2.12 Encrustation of a JJ stent. Reproduced with permission from Reynard et al., *Oxford Handbook of Urology*, 2006, Oxford University Press.





Fig. 6.23 Large bilateral stones involving multiple calyces. Several PCNL tracks would be required to gain access to all the stone.



Fig. 6.34 A large bladder stone. The sensible option is open cystolithotomy.

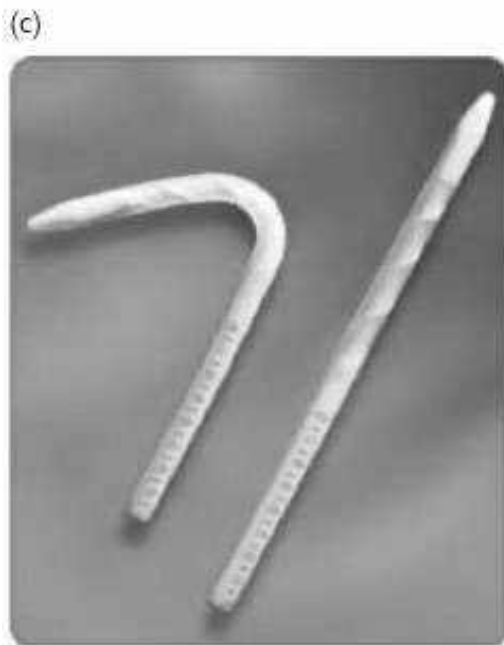
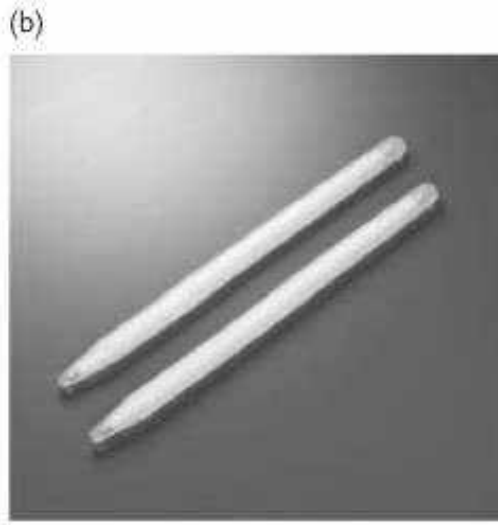
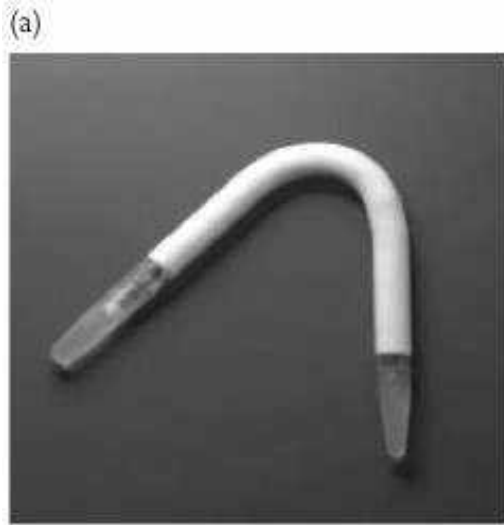


Fig. 12.2 Examples of four semi-rigid devices.

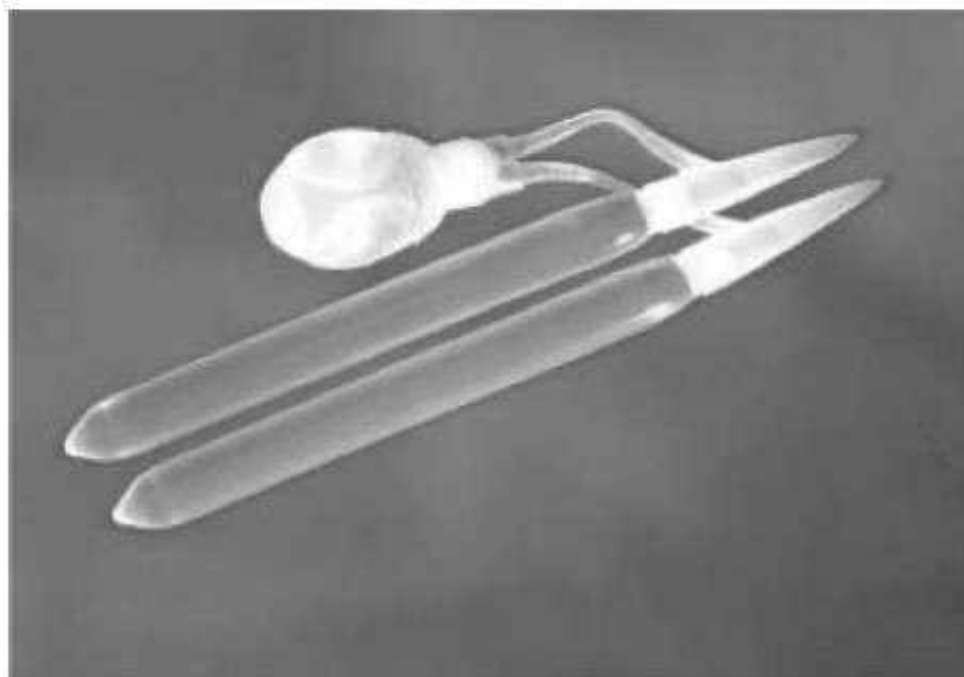
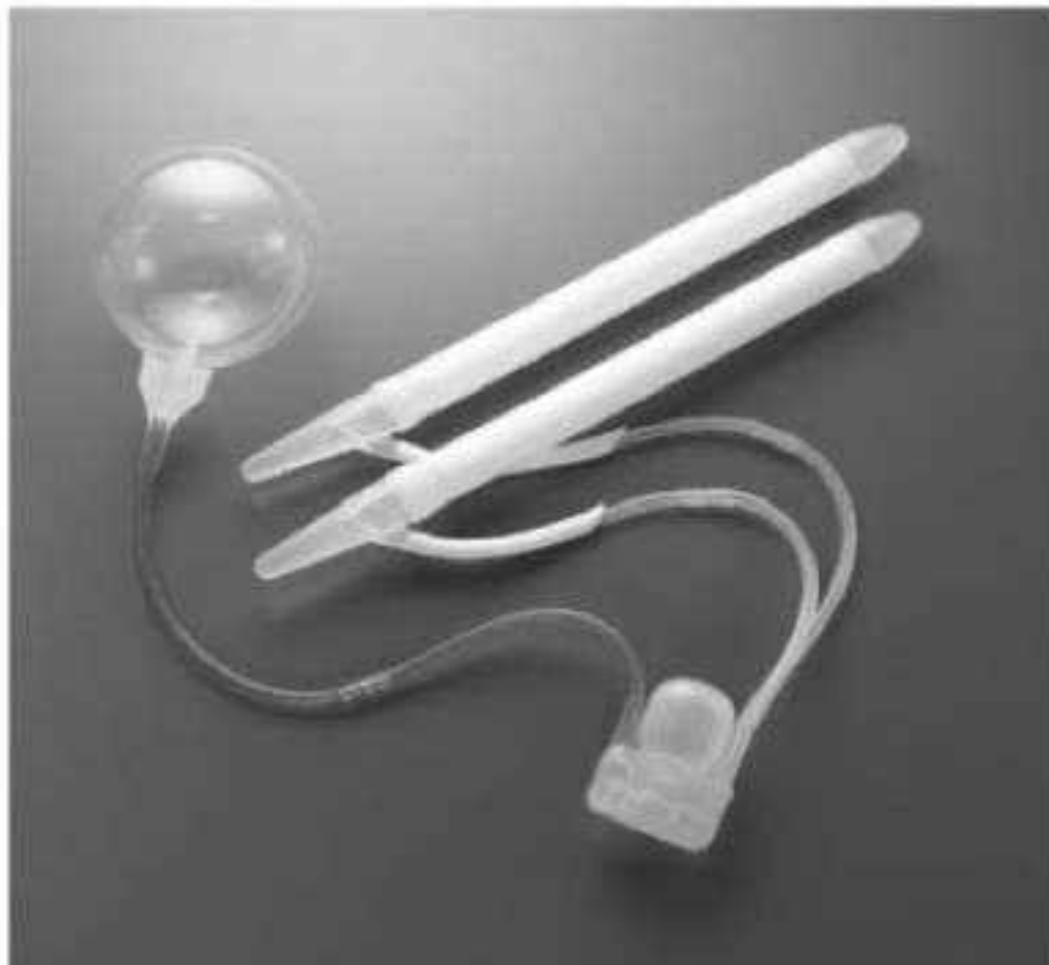


Fig. 12.3 Two-piece device (Ambicor).

(a)



(b)



Fig. 12.4 Three-piece devices.

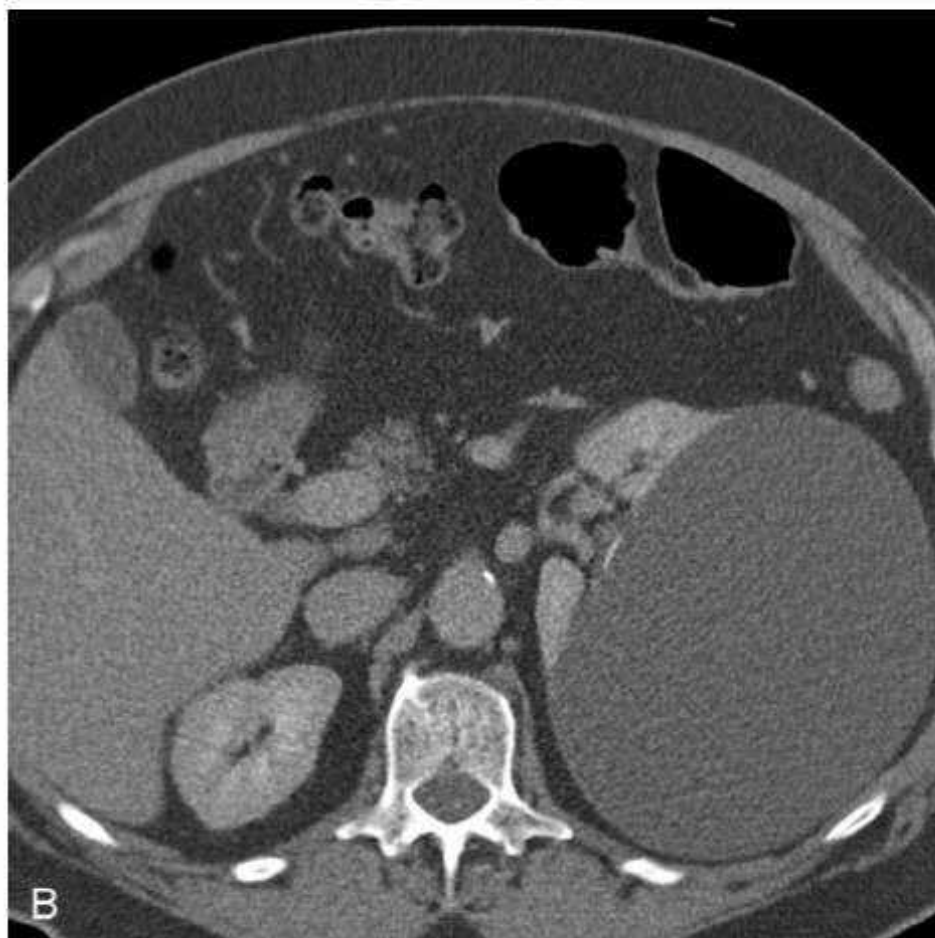
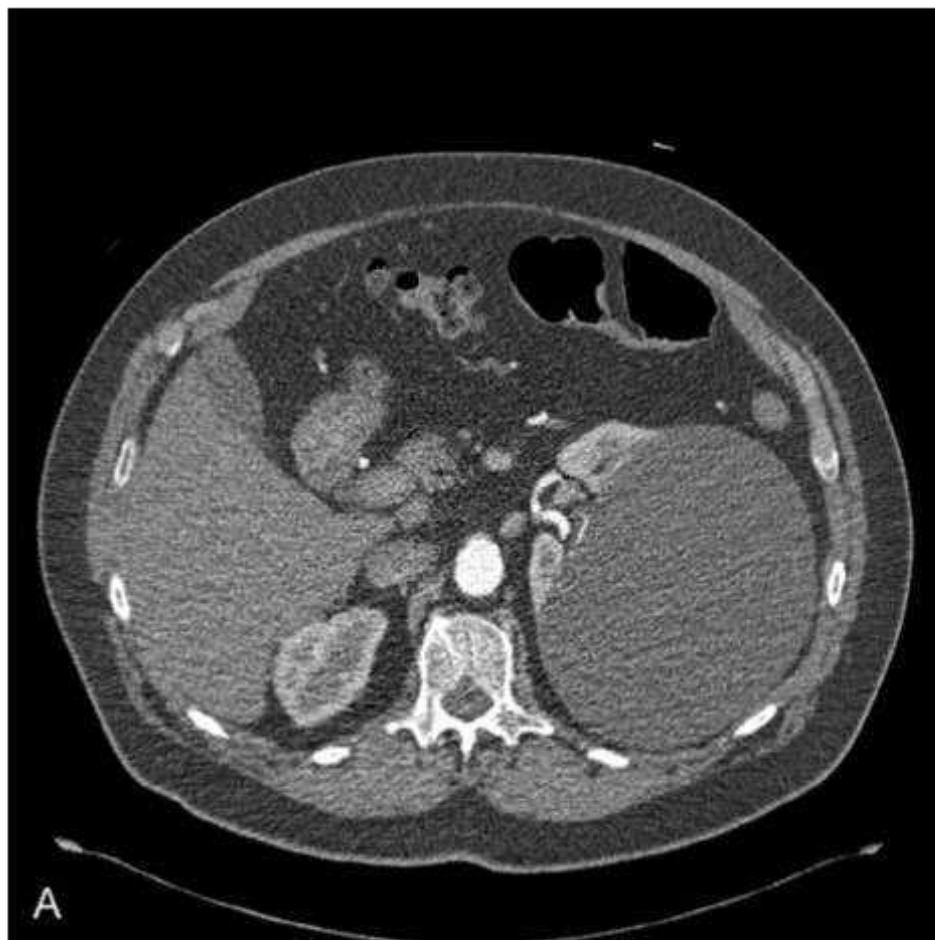


FIGURE 2.5 Left renal cyst. (A) Arterial phase. (B) Homogeneous nephrographic phase. The large left renal cyst does not enhance, indicating it is benign. There is a small linear calcification on the medial aspect of the cyst.

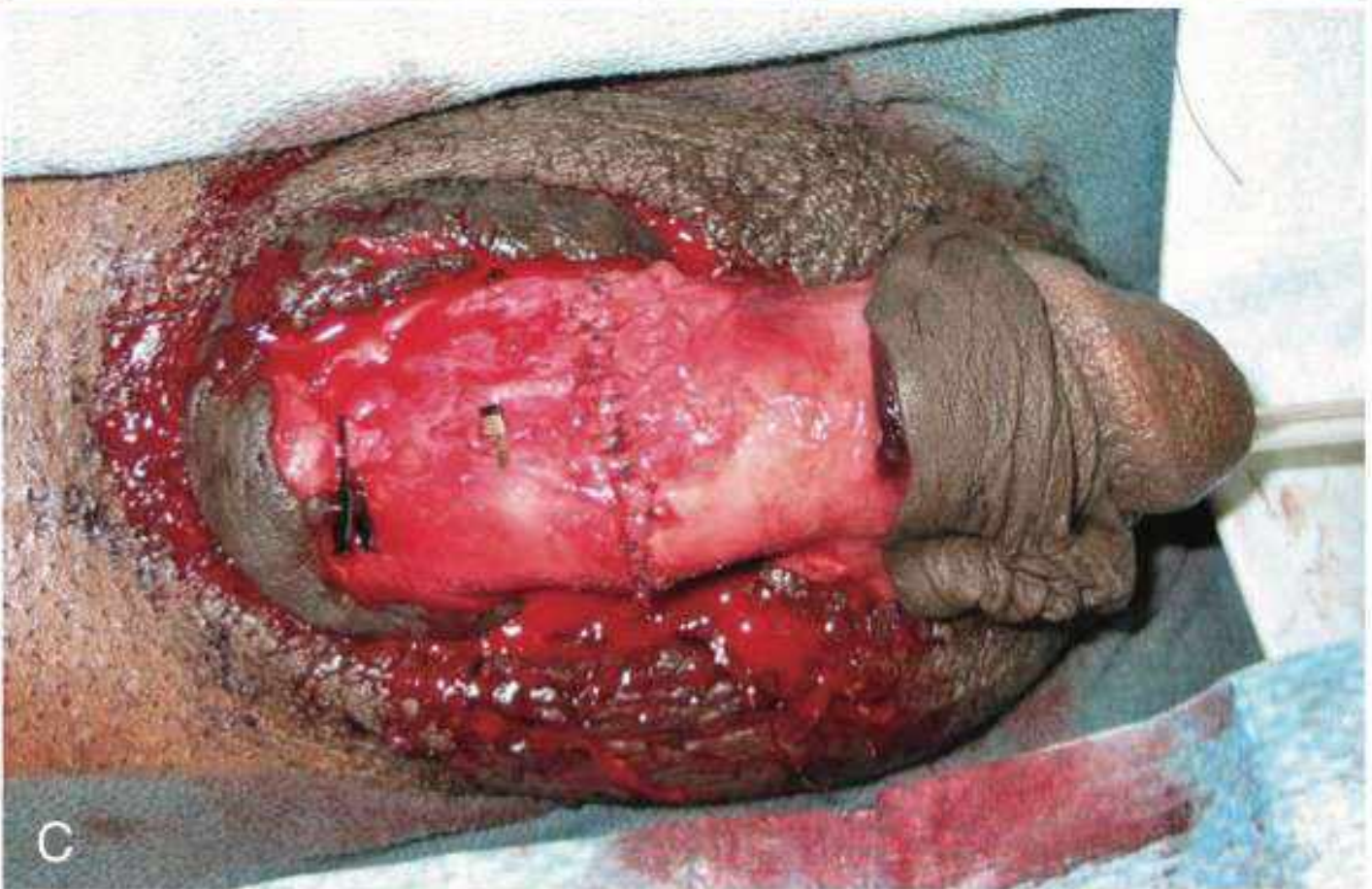
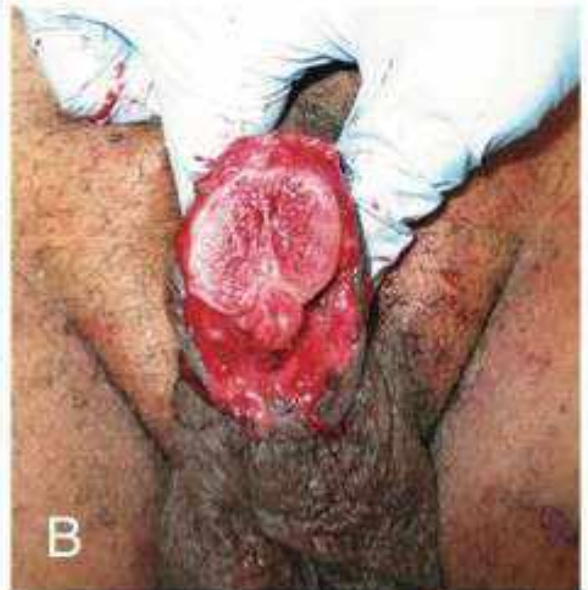


FIGURE 10.13 Penile amputation before and after repair. (A) Detached distal phallus. (B) Proximal penile stump. Note the transected corpora and urethra. (C) Phallus after microscopic reanastomosis.



Figure 2: Micturating cystourethrogram anteroposterior (AP) plate and lateral plate.

1. What do you think is type of neurogenic bladder it is?

Ans. This appears to be high pressure bladder. So likely to be upper motor neuron type of bladder.

2. How this patient would have presented with?

Ans. Frequency, urgency, urgency incontinence, features of renal failure, repeated episodes of urinary tract infection (UTI), and constipation.

3. What this appearance is described as?

Ans. This is fir tree or Christmas tree or pine tree appearance, which is typical of high pressure neurogenic bladder.

4. Why do you say it is neurogenic bladder?

Ans. Since spina bifida is evident, it is more likely to be a neurogenic bladder. However, in the absence of such signs, the d/d can be non-neurogenic neurogenic bladder.

5. What other relevant investigations will you do which are diagnostic?

Ans. Complete blood count (CBC), ultrasonography (USG), serum creatinine, magnetic resonance imaging (MRI) of the spine.

6. What are the likely finding in the urodynamic study?

Ans.

- Poor compliance
- Detrusor instability
- Low cystometric capacity
- High voiding pressures
- Poor or maintained urinary flow
- On electromyography (EMG), it could be nonrelaxing sphincter or detrusor sphincter dyssynergia

RENAL MASS

Description

There is a large heterogeneously enhancing mass occupying the upper and middle pole of right kidney abutting the liver cranially, maintaining the fat plane, laterally, abutting the psoas, fat plane is maintained. Neoangiogenesis is seen all around the mass.

There is a single renal artery with additional collaterals supplying the tumor.

There is a single renal vein which is free of thrombus.

There is no obvious lymph nodes enlargement seen.

Most likely diagnosis is RCC (Figs. 3A to D).

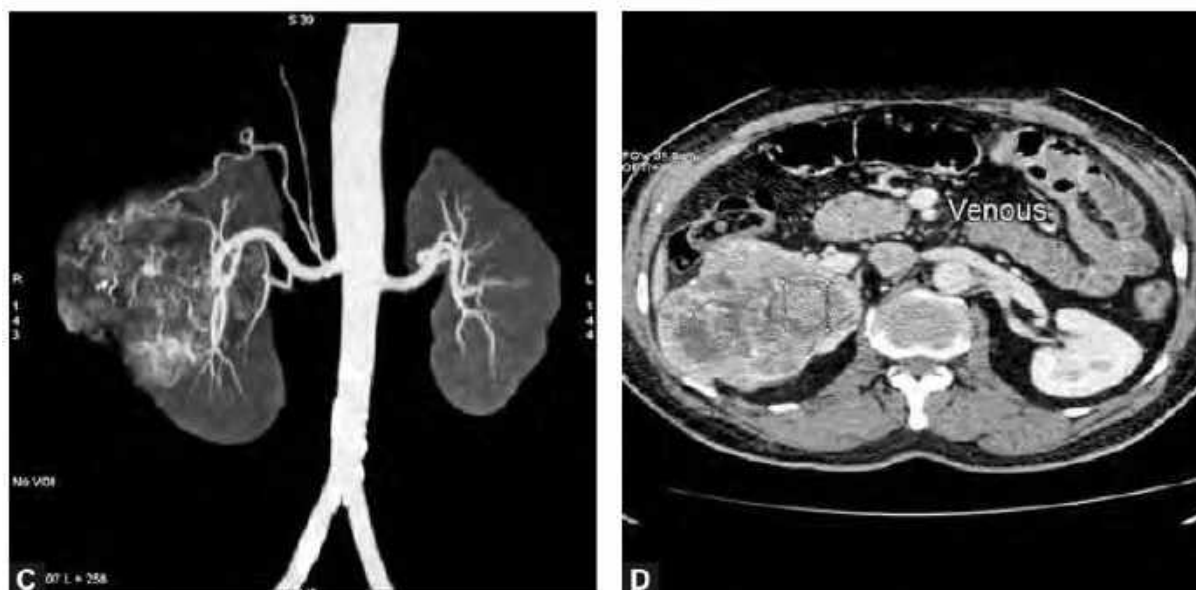
309



Figures 3A to D:

Contd...

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Figures 3A to D: CT scan images of a right renal mass.

1. What do you think is the T stage of the tumor?

Ans. The tumor appears to be >7 cm, sinus fat is not seen separately, and there are no obvious lymph nodes seen.
So, it could be cT3aN0.

2. What this patient would have presented with?

Ans.

- Flank pain
- Hematuria
- Lump in abdomen
- Paraneoplastic syndrome
- Fever, jaundice, hypertension
- Constitutional symptoms

3. What more work-up is required in this case?

Ans. Metastasis evaluation to be done by chest CT.

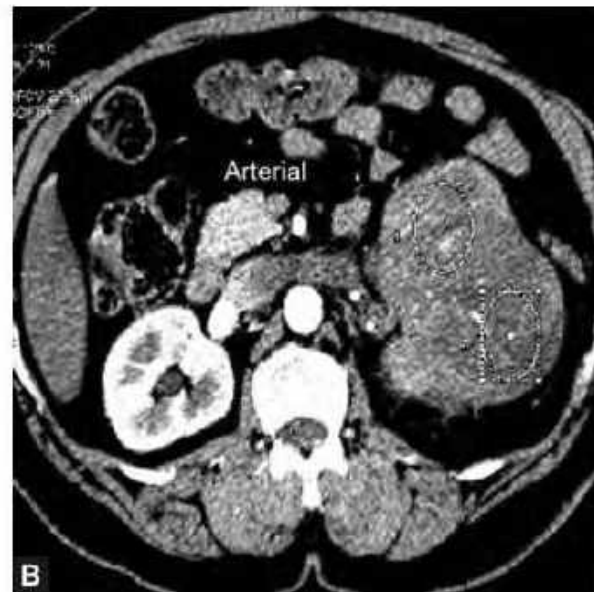
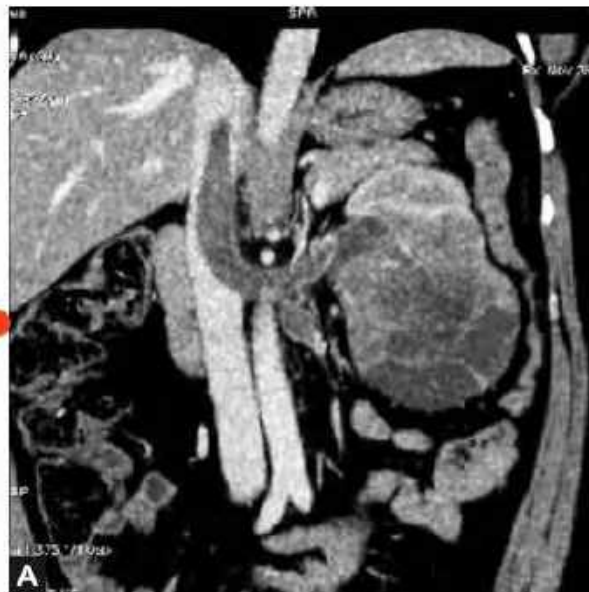
4. Will you do FDG PET in this case?

Ans. Routine use of fluorodeoxyglucose (FDG)-positron emission tomography (PET) scan in case of RCC is discouraged.

RENAL MASS WITH IVC THROMBUS

Description

Left kidney shows heterogeneously enhancing mass occupying the whole kidney mainly arising from the lower pole. There is no excretion of contrast in the pelvicalyceal system (PCS) on left side. Left renal vein shows thrombus which is going into the inferior vena cava (IVC) up to its retrohepatic course but not extending above the diaphragm. Thrombus is not occupying the whole IVC (**Figs. 4A to C**). The tumor does not appear to infiltrate the surrounding structures. No obvious grossly enlarged lymph nodes are seen. No metastasis is seen in the liver. The diagnosis is RCC with IVC thrombus.



Figures 4A to C: CT scans show renal mass with thrombus.

General Surgery: Clinical Signs & Other Clinical Notes

**This File Is Prepared And Arranged By:
Jaapher M. Mehayil, 6th Stage Student
Based On Lecture By: Dr. Ashraf Sami
2022**



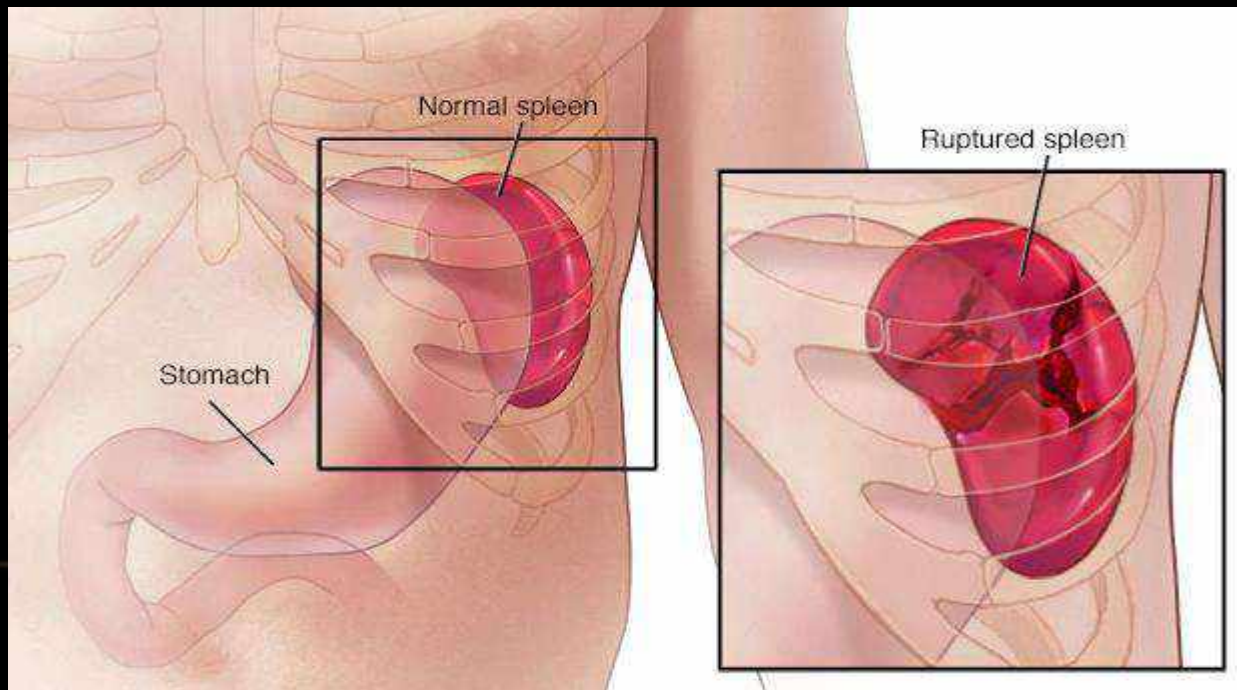
“To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all.”

- Sir William Osler, FRS FRCP (1849 –1919)

Ballance's Sign

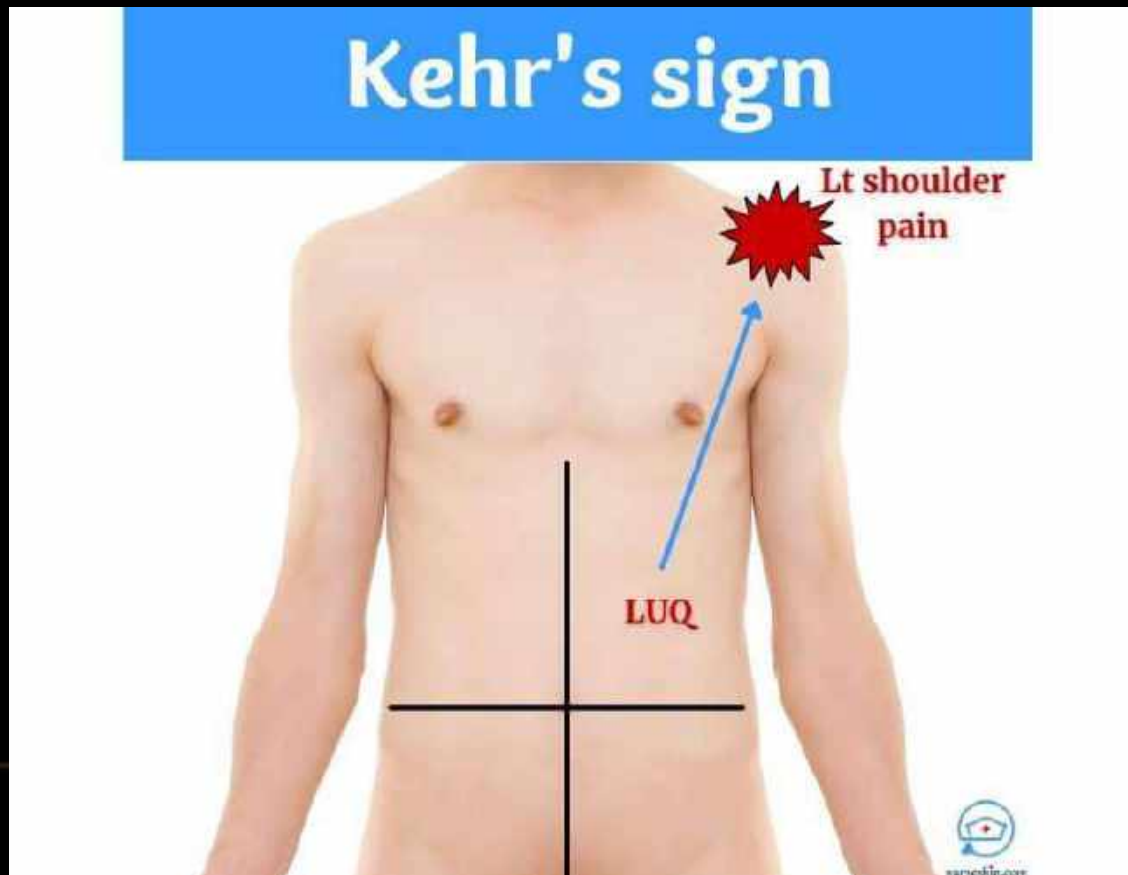
Seen in about 25% of ruptured spleen.

There is a dull note in both the flanks due to haemoperitoneum. The dullness on the right side can be made to shift, but that on the left side remains constant/fixed because the blood in the vicinity of the ruptured spleen gets coagulated soon.



Kehr's Sign

This sign identifies the pain elicited in the left shoulder in patients with suspected splenic rupture. The pain (referred pain) experienced by the patient is due to blood in the peritoneal cavity irritating the diaphragm.



Cullen's Sign

A clinical sign which was typically and initially described for ruptured ectopic pregnancy wherein there is discolouration (ecchymosis) of the umbilicus and the surrounding skin (aptly referred to as umbilical black eye). It is due to haemoperitoneum and may be seen in conditions like ruptured ectopic pregnancy (a bluish tinge), acute haemorrhagic pancreatitis (a yellowish tinge).



Grey Turner's Sign

Skin discolouration (bruising) in the left flank (left costovertebral angle) in cases of acute haemorrhagic pancreatitis.



Dalrymple's Sign

It is one of the manifestations of Graves' ophthalmopathy. It consists of retraction of the upper eyelid so that the palpebral opening is abnormally wide and upper sclera is visible.



Joffroy's Sign

Absence of wrinkling of the forehead when the head is bent down and the patient is asked to look upwards— A sign of Graves' ophthalmopathy.



joffroy's sign

Moebius Sign

Inability to keep the eyeballs converged due to insufficiency of medial rectus muscle— A clinical sign of Graves' ophthalmopathy.



Stellwag's Sign

Identifies the widening of palpebral fissures (staring look) due to retraction of upper eyelids, an early sign of Graves disease.



Von Graefe's Sign

(Syn: Graefe's sign): Persistent lagging of upper lid behind the corneoscleral limbus. Ask the patient when patient is asked to follow the finger moved up and down several times. Seen in Graves' disease

von GRAEFE SIGN(RIGHT EYE)



Exophthalmos

abnormal protrusion of one or both eyeballs. The most common cause for unilateral or bilateral exophthalmos is thyroid eye disease, or Graves ophthalmopathy. It arises from inflammation, cellular proliferation, and accumulation of fluid in the tissues that surround the eyeball in its orbit.



Exophthalmos Vs Proptosis

Proptosis can describe any organ that is displaced forward, while Exophthalmos refers to only the eyes.

EXOPHTHALMOS



PROPTOSIS



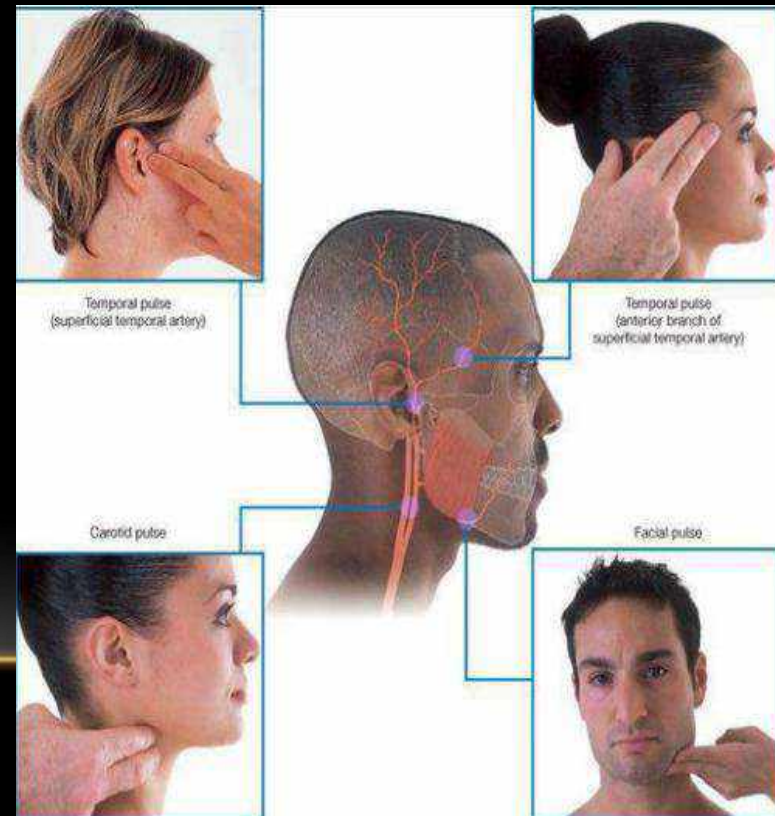
Berry's Sign

Indicated by the absence of carotid artery pulsation in a patient presenting with goitrous swelling, is an ominous sign of thyroid malignancy (due to carotid sheath infiltration by the malignant tissue).

Note / you feel carotid pulsation .. if absent .. Feel superficial temporal:

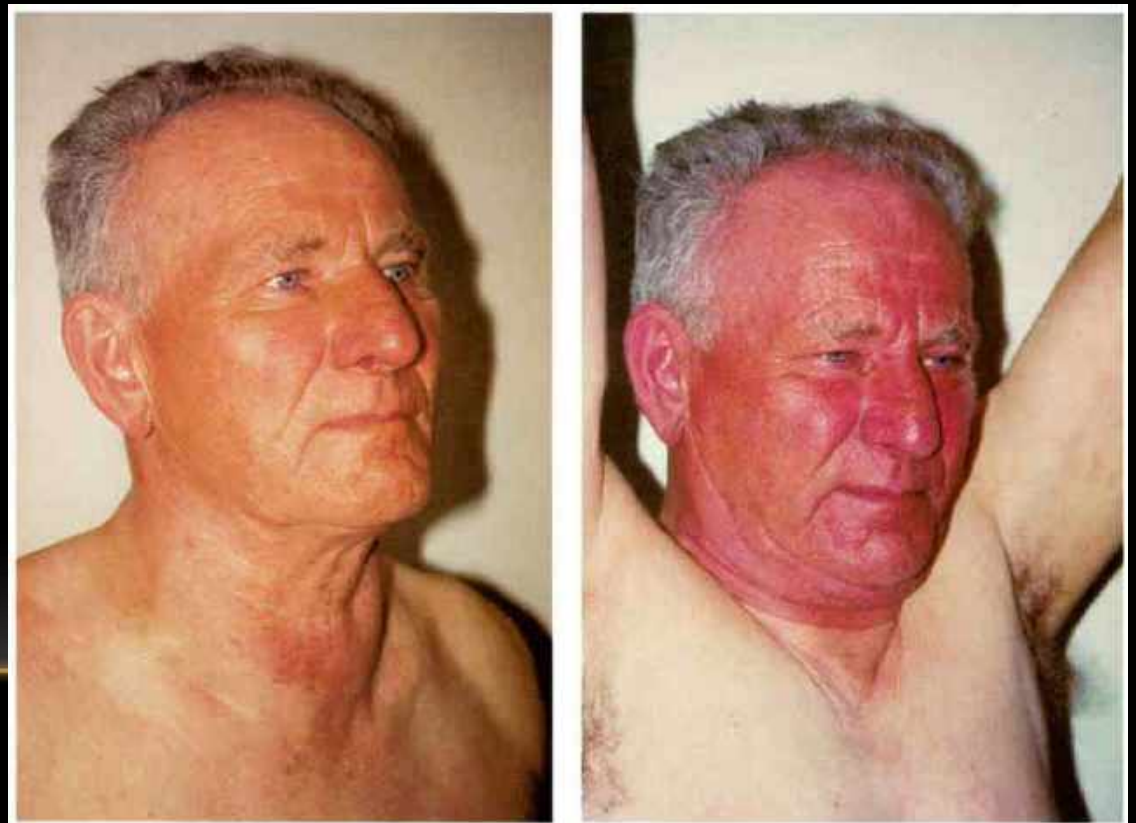
if present > carotid displacement e.g Goitre

if absent > carotid infiltration e.g malignancy



Pemberton's Sign

This sign refers to symptoms of faintness with evidence of facial congestion and external jugular vein distension when the arms are raised above the head touching the ears. This manoeuvre reduces the thoracic inlet thereby hampering venous drainage of the face in the presence of retrosternal thyroid.

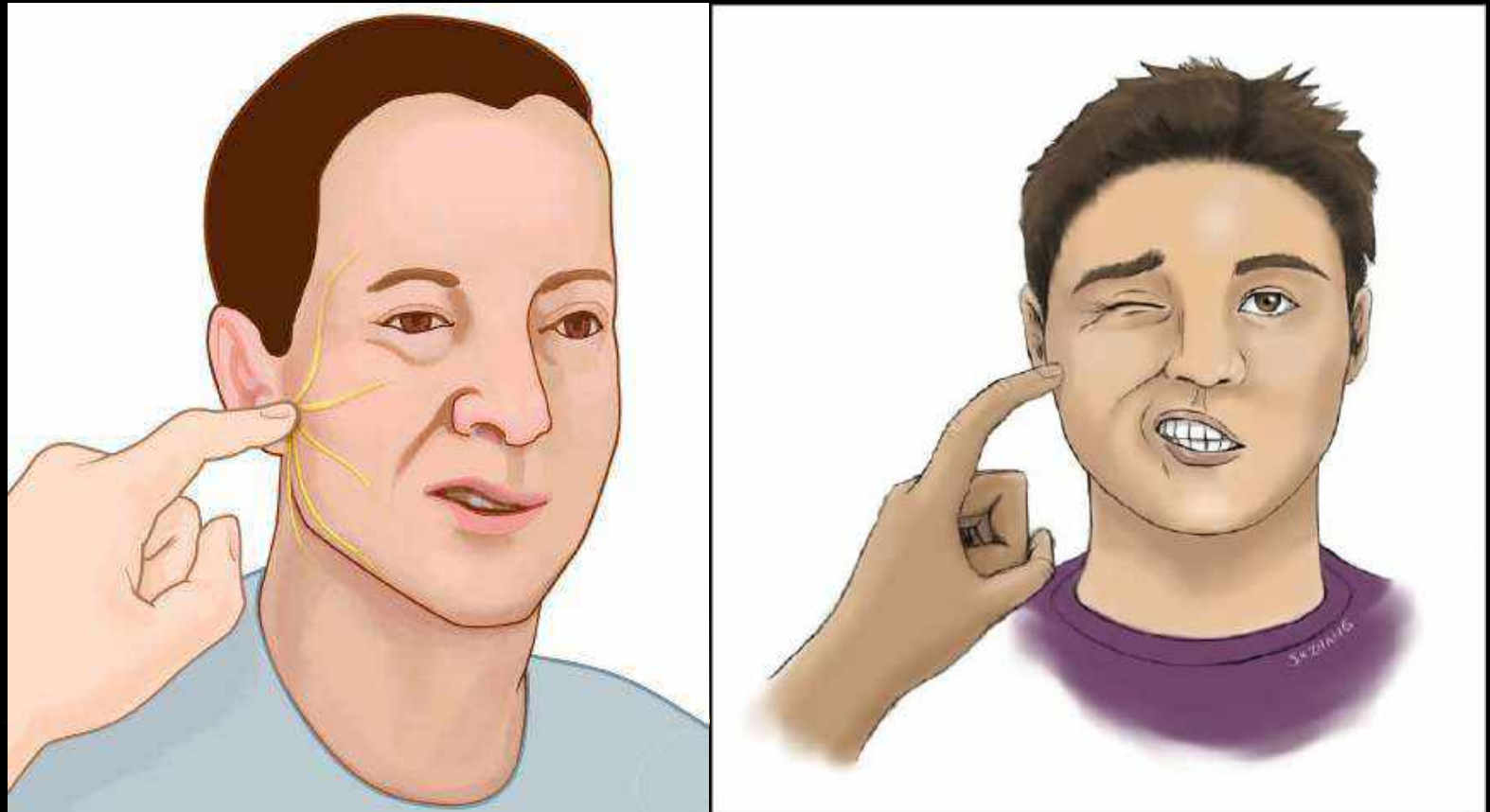


Plummer's Sign

Inability to step up onto the chair or to walk up steps seen in Graves' disease and other forms of hyperthyroidism.

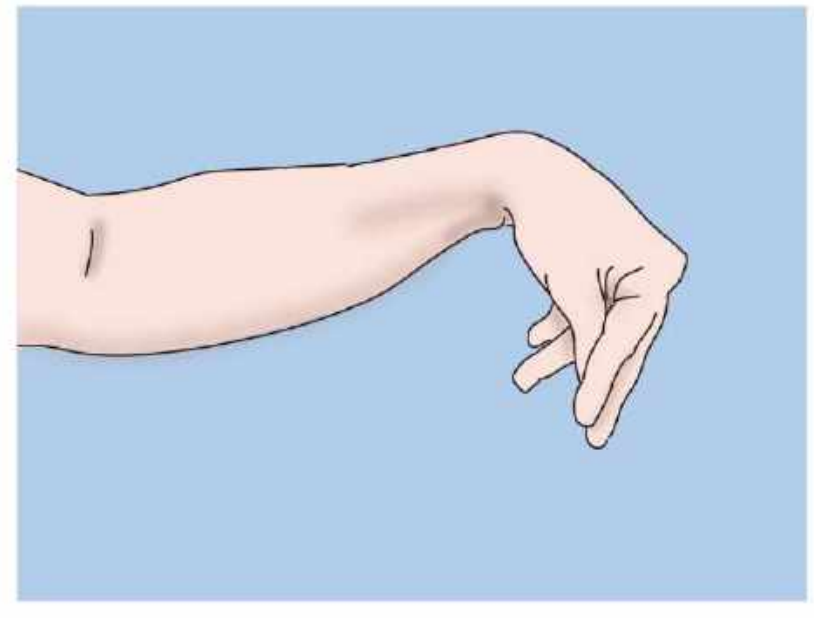
Chvostek's Sign

a contraction of ipsilateral facial muscles subsequent to percussion over the facial nerve—is considered a clinical indicator of hypocalcemia.



Trousseau's Sign

This sign is described under two different context: The blood pressure cuff is applied to the arm and inflated to pressure above systolic pressure for 3-5 minutes. This will elicit typical carpedal spasm (obstetrician's hand) in cases of hypoparathyroidism and other conditions associated with hypocalcaemia. Migrating superficial thrombophlebitis—a sign of visceral carcinomas especially of pancreas or the stomach.



Murphy's Sign

(Moynihan's method): This clinical sign is classically described in patients suffering from cholecystitis. It is elicited by asking the patient to breath deeply while exerting moderate pressure with the left hand such that thumb lies over the fundus of the gallbladder. The patient catches his breath as the inflamed gallbladder which is pushed down by the diaphragm gets imposed against the thumb.



Boas Sign

An area of hyperaesthesia, posteriorly extending 2.5 cm lateral to the spinous process of vertebrae to the posterior axillary line and vertically from the level of the 11th dorsal to the 1st lumbar spine—A definitive sign of the presence of cholecystitis.

hyperaesthesia (increased or altered sensitivity) below the right scapula.



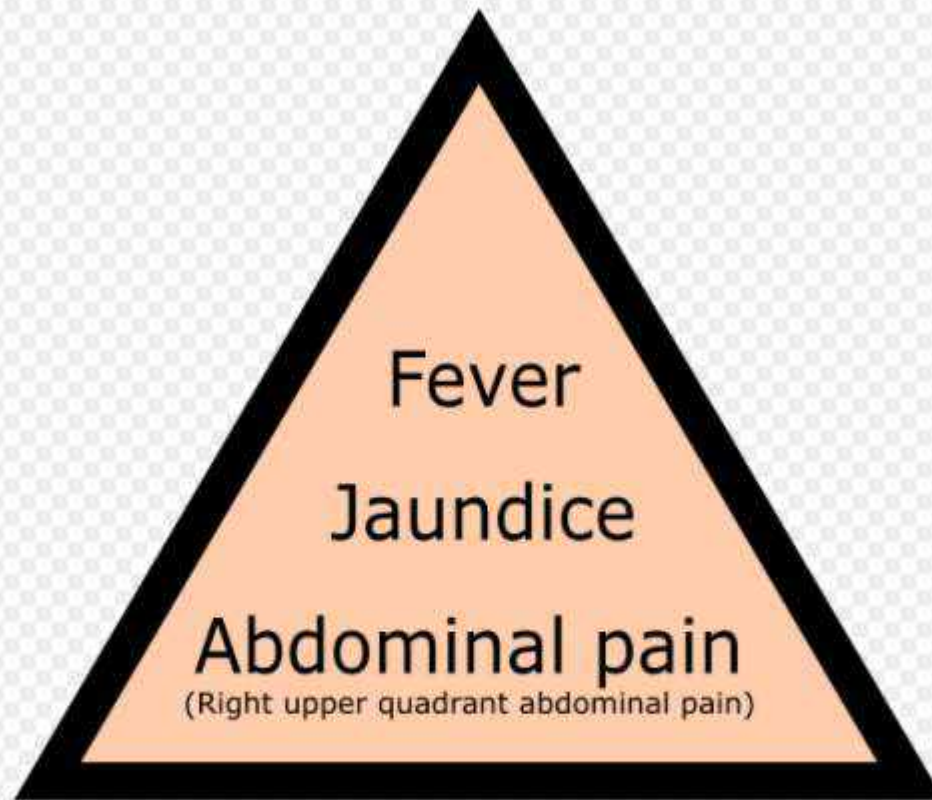
Courvoisier's Sign

(Syn; Courvoiser's law): In a patient with obstructive jaundice, if the gallbladder is palpable it is not due to gallstones.



Charcot's Triad

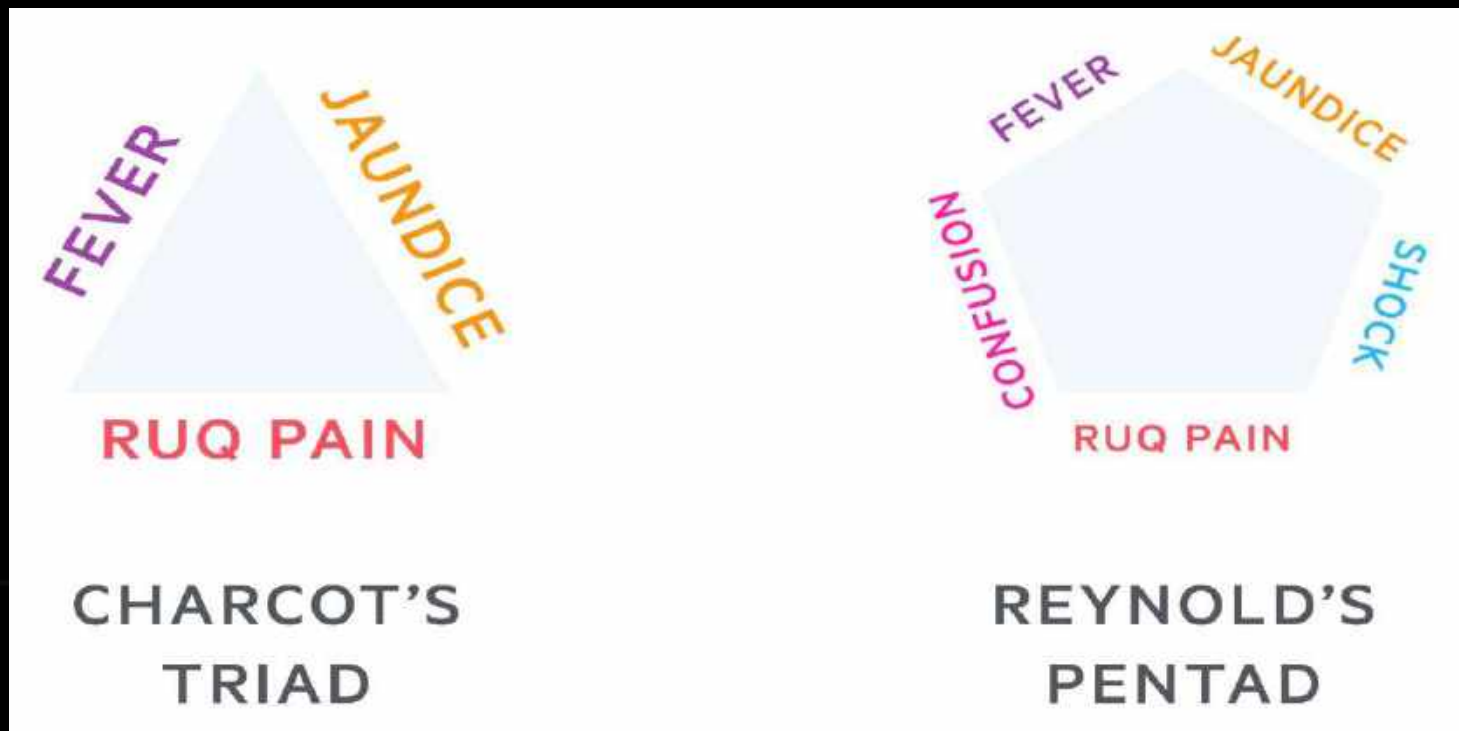
Seen in ascending cholangitis.



Charcot's cholangitis triad

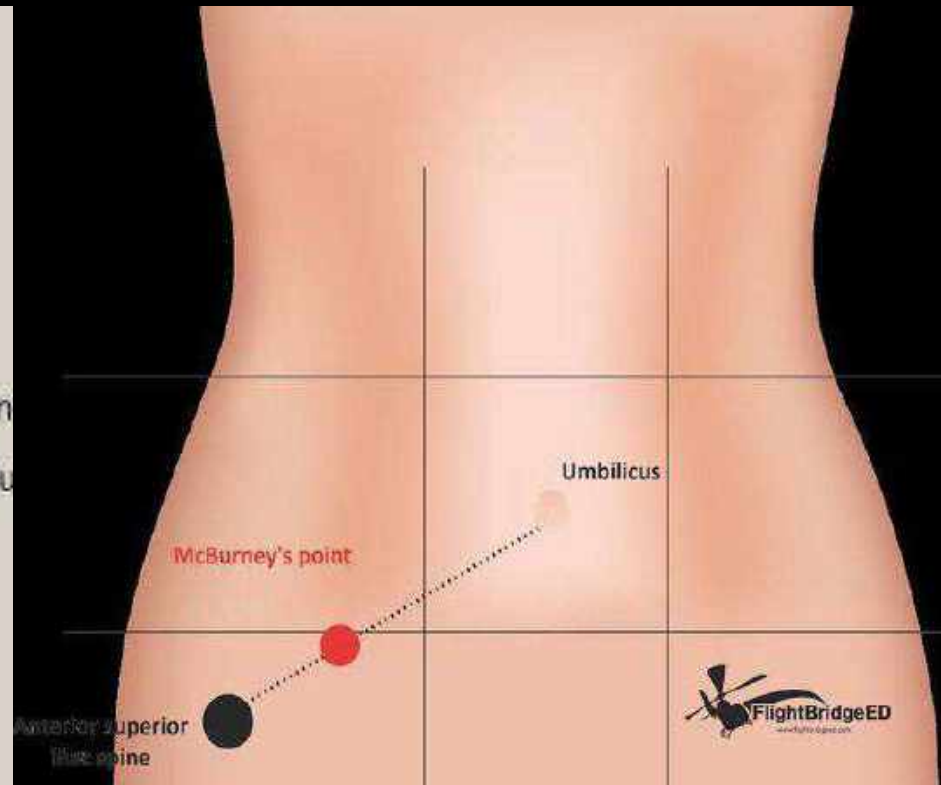
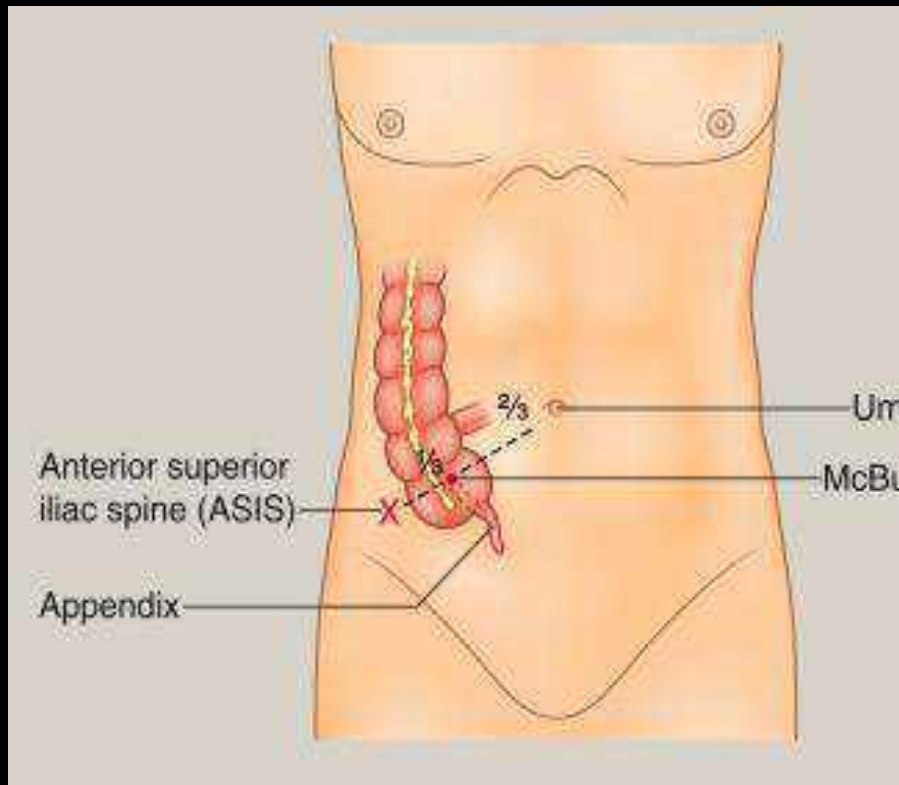
Reynolds' Pentad

is a collection of signs and symptoms suggesting the diagnosis obstructive ascending cholangitis, a serious infection of the biliary system. It is a combination of Charcot's triad (right upper quadrant pain, jaundice, and fever) with shock (low blood pressure, tachycardia) and an altered mental status. Sometimes the two additional signs are listed simply as low blood pressure and confusion.



McBurney's Sign

Finger tip pressure is made over the McBurney point elicits severe tenderness in patients with appendicitis.



Pointing Sign

point to the site of maximum pain it is also certainly the site of diseased organ, e.g. appendicitis.



Psoas Sign

also known as "Obrastsova's sign", is right lower-quadrant pain that is produced with either the passive extension of the right hip or by the active flexion of the person's right hip while supine. The pain that is elicited is due to inflammation of the peritoneum overlying the iliopsoas muscles and inflammation of the psoas muscles themselves. Straightening out the leg causes pain because it stretches these muscles, while flexing the hip activates the iliopsoas and causes pain. Seen in appendicitis.



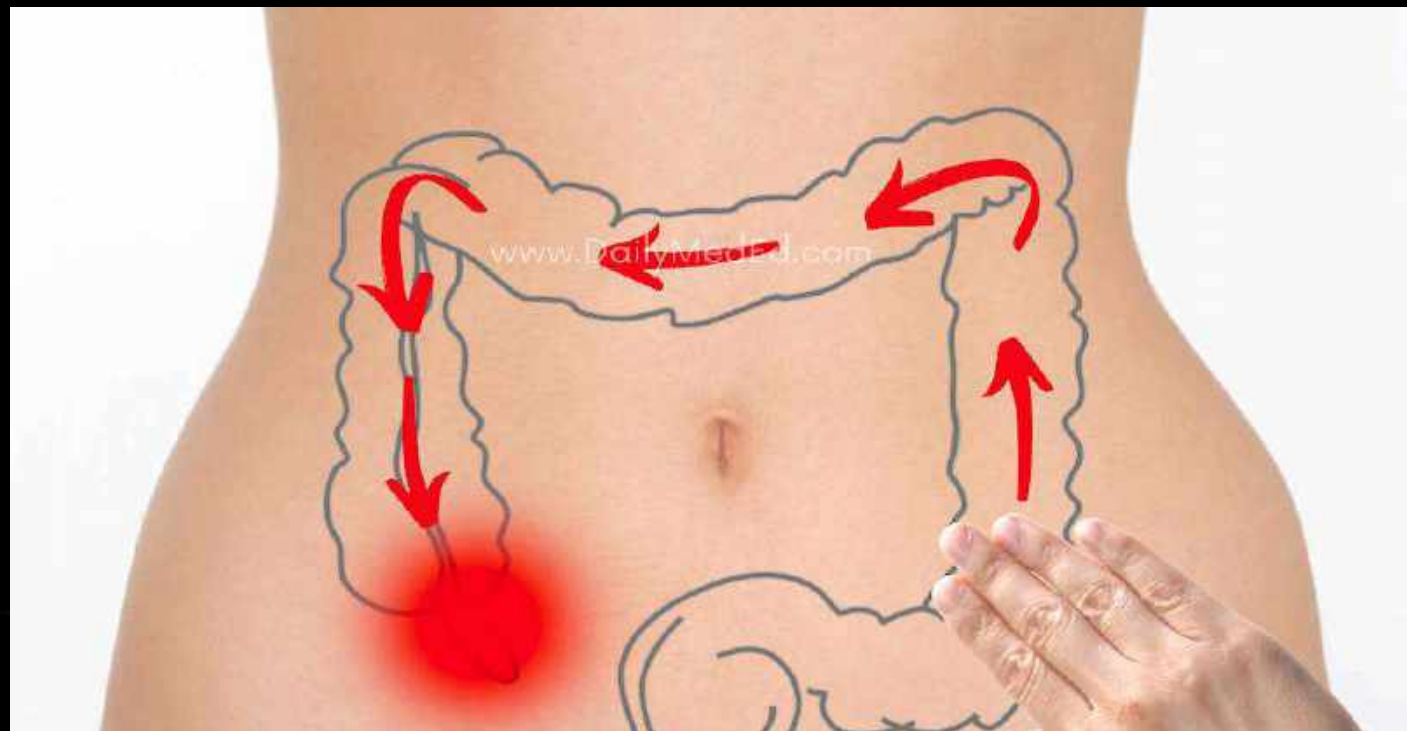
Obturator Sign

The person being evaluated lies on her or his back with the hip and knee both flexed at ninety degrees. The examiner holds the person's ankle with one hand and knee with the other hand. The examiner rotates the hip by moving the person's ankle away from his or her body while allowing the knee to move only inward. A positive test is pain with internal rotation of the hip. Seen in appendicitis.



Rovsing's Sign

Pain in the lower right abdominal quadrant with continuous deep palpation starting from the left iliac fossa upwards (counterclockwise along the colon). The thought is there will be increased pressure around the appendix by pushing bowel contents and air toward the ileocaecal valve provoking right-sided abdominal pain. Seen in appendicitis.



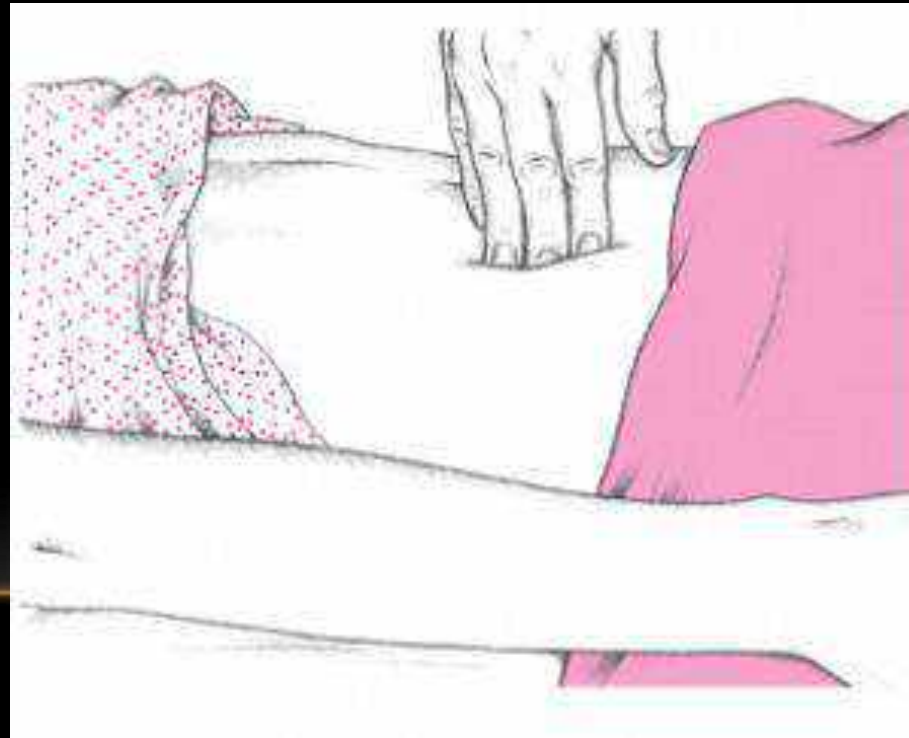
Dunphy's Sign

Increased pain in the right lower quadrant with coughing.
Seen in appendicitis.



Blumberg's Sign

also referred to as rebound tenderness or the Shyotkin-Blumberg sign: is a clinical sign in which there is pain upon removal of pressure rather than application of pressure to the abdomen. Positive Blumberg's sign is indicative of peritonitis, which can occur in diseases like appendicitis, and may occur in ulcerative colitis with rebound tenderness in the right lower quadrant.



Murphy's Triad

Seen in acute appendicitis.

Murphy's triad



Pain



Vomiting



Temperature

Dance Sign

(Syn: Signe de Dance): A feeling of emptiness in the right iliac fossa,
A sign of intussusception.



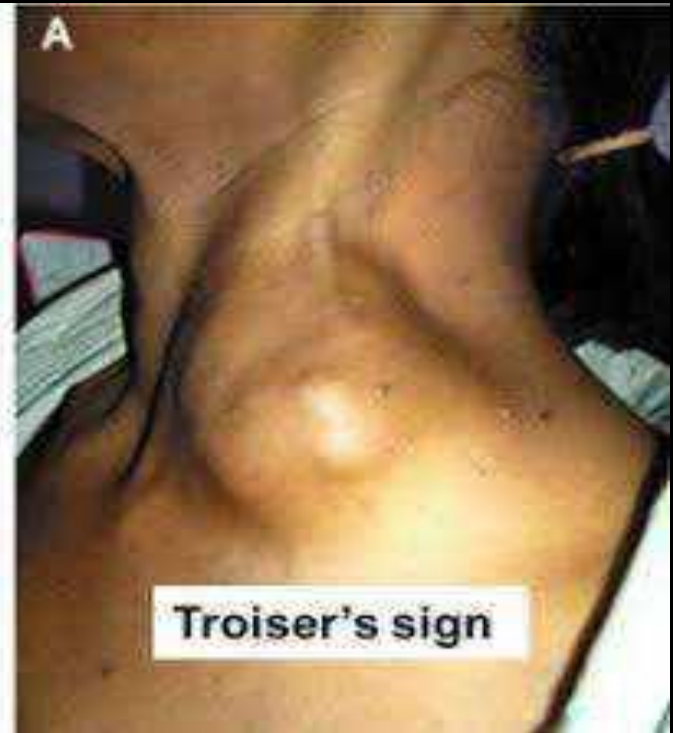
Troisier's Sign

Identifies enlargement of left supraclavicular lymph node (Virchow's node).

Seen in: CA. stomach CA. testes , CA. bronchus , Malignancy of any other abdominal organ.

Note/ Virchow's node is a left-sided supraclavicular lymph node (normal).

Troisier sign is the enlargement of the left supraclavicular node (pathology).



Sister Mary Joseph Nodule

The Sister Mary Joseph nodule or more commonly node, also called Sister Mary Joseph sign, refers to a palpable nodule bulging into the umbilicus as a result of metastasis of a malignant cancer in the pelvis or abdomen. Sister Mary Joseph nodules can be painful to palpation.



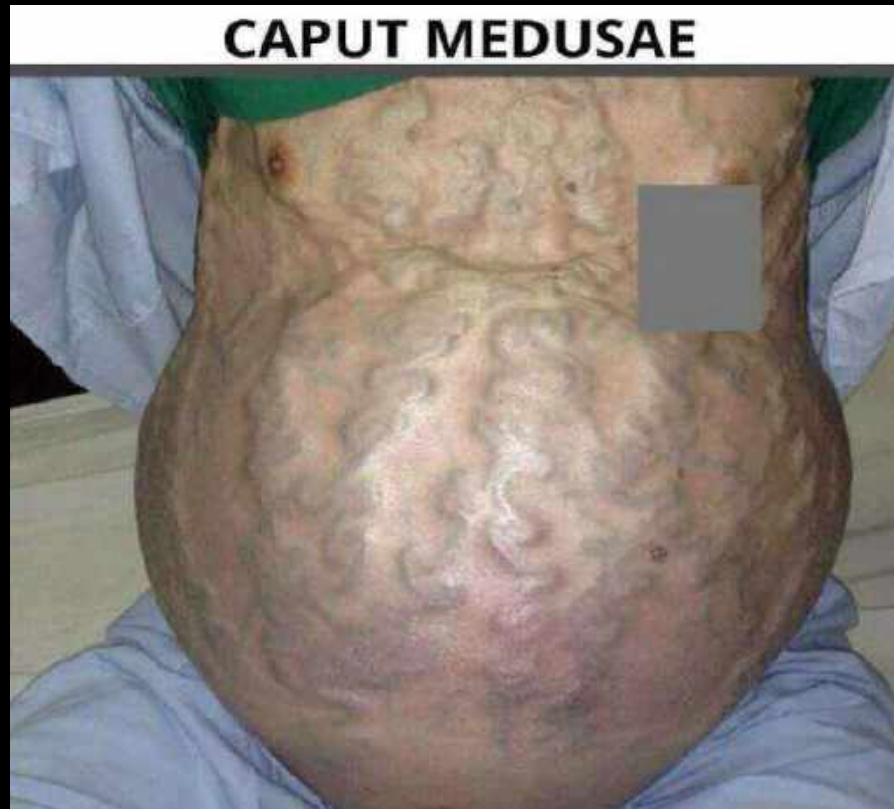
Figure 1: Sister Mary Joseph Nodule (metastatic lesion to umbilicus).



Caput Medusae

Caput medusae is one of the cardinal features of portal hypertension.

The appearance is due to cutaneous portosystemic collateral formation between distended and engorged paraumbilical veins that radiate from the umbilicus across the abdomen to join systemic veins.

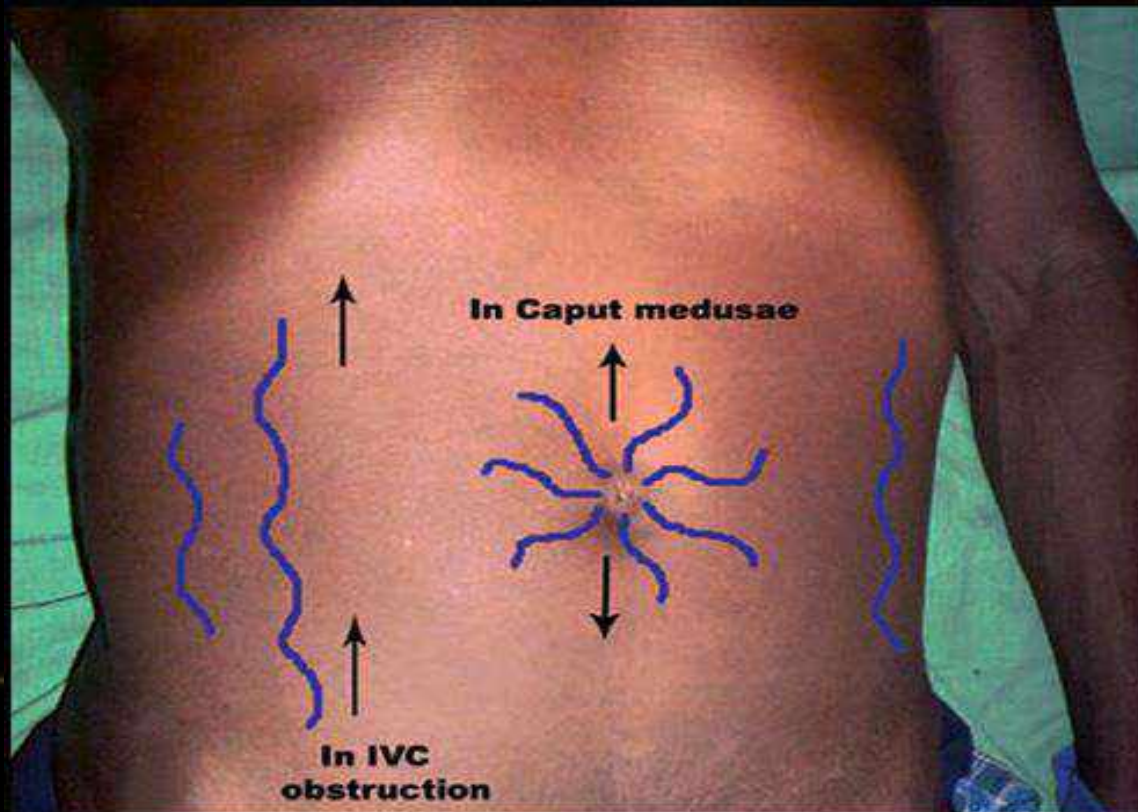


Differential diagnosis of Caput medusae is Inferior vena cava obstruction.

Determine the direction of flow in the veins below the umbilicus. After pushing down on the prominent vein, blood will:

flow toward the legs → caput medusae

flow toward the head → inferior vena cava obstruction.



Saint's Triad

The concurrence of hiatus hernia, cholelithiasis and colonic diverticulosis.

Saint's Triad

[Named After Charles Fredrick
Morris Saint
(British Surgeon)]

* Gall Stones

* Diverticulosis

* Hiatus Hernia

@Doctor module.



(1)



(2)



(3)

Scaphoid Abdomen

The anterior abdominal wall is sunken and presents a concave rather than a convex contour. Scaphoid abdomen can be observed in diseases such as congenital diaphragmatic hernia (since the abdominal contents can be in the thorax)

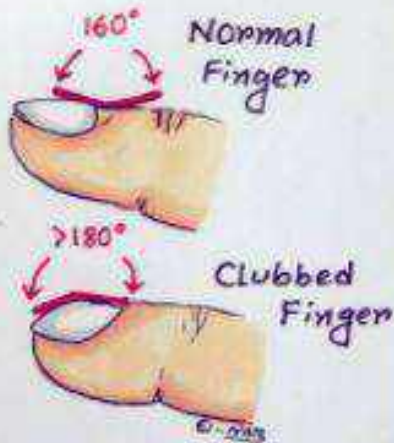


Guarding Vs Rigidity

ABDOMINAL FINDINGS

- Guarding
 - Voluntary
 - Contraction of abdominal musculature in anticipation of palpation
 - Diminish by having patient flex knees
 - Involuntary
 - Reflex spasm of abdominal muscles
 - aka: rigidity
 - Suggests peritoneal irritation

Causes of Clubbing



C → **C**yanotic Heart dis.

Cystic Fibrosis

L → **L**ung Cancer **L**ung abscess

U → **U**lcerative Colitis

B → **B**ronchiectasis

B → **B**enign mesothelioma

I → **I**nfective Endocarditis
Idiopathic Pulmonary fibrosis

N → **N**eurogenic tumors

G → **G**astrointestinal dis.

Abdominal Causes Of Clubbing

Ulcerative colitis

Crohn disease

Primary biliary cirrhosis

Cirrhosis of the liver

Hepatopulmonary syndrome

Leiomyoma of the esophagus

Achalasia

Peptic ulceration of the esophagus

Radiation Of Pain, Referred Pain, Shifting/Migrating Pain

Radiation of pain: extension of pain from original site to another site with persistence of pain at original site. e.g. penetration of duodenal ulcer posteriorly causes pain both in epigastrium and back, pancreatitis radiates to back.

Referred pain: pain is not felt at the site of disease but felt at distant site. e.g. diaphragmatic irritation causes referred pain at the tip of shoulder through same segmental supply. Diaphragm (phrenic c4,c5), shoulder (cutaneous supply c4,c5).

Shifting/migrating pain: origin of pain is in one site later pain shifts to another site and pain at original site disappears. pain when begins in viscera is felt the same somatic segmental area but once parietal peritoneum is inflamed pain is felt at anatomical site e.g. acute appendicitis where original visceral pain at umbilicus which later shifts to right iliac fossa when parietal peritoneum is inflamed (T9,T10 segments supply both umbilicus and appendix).

GOOD LUCK

**A doctor is a
student till his
death, when he
fails to be a
student, he dies.**

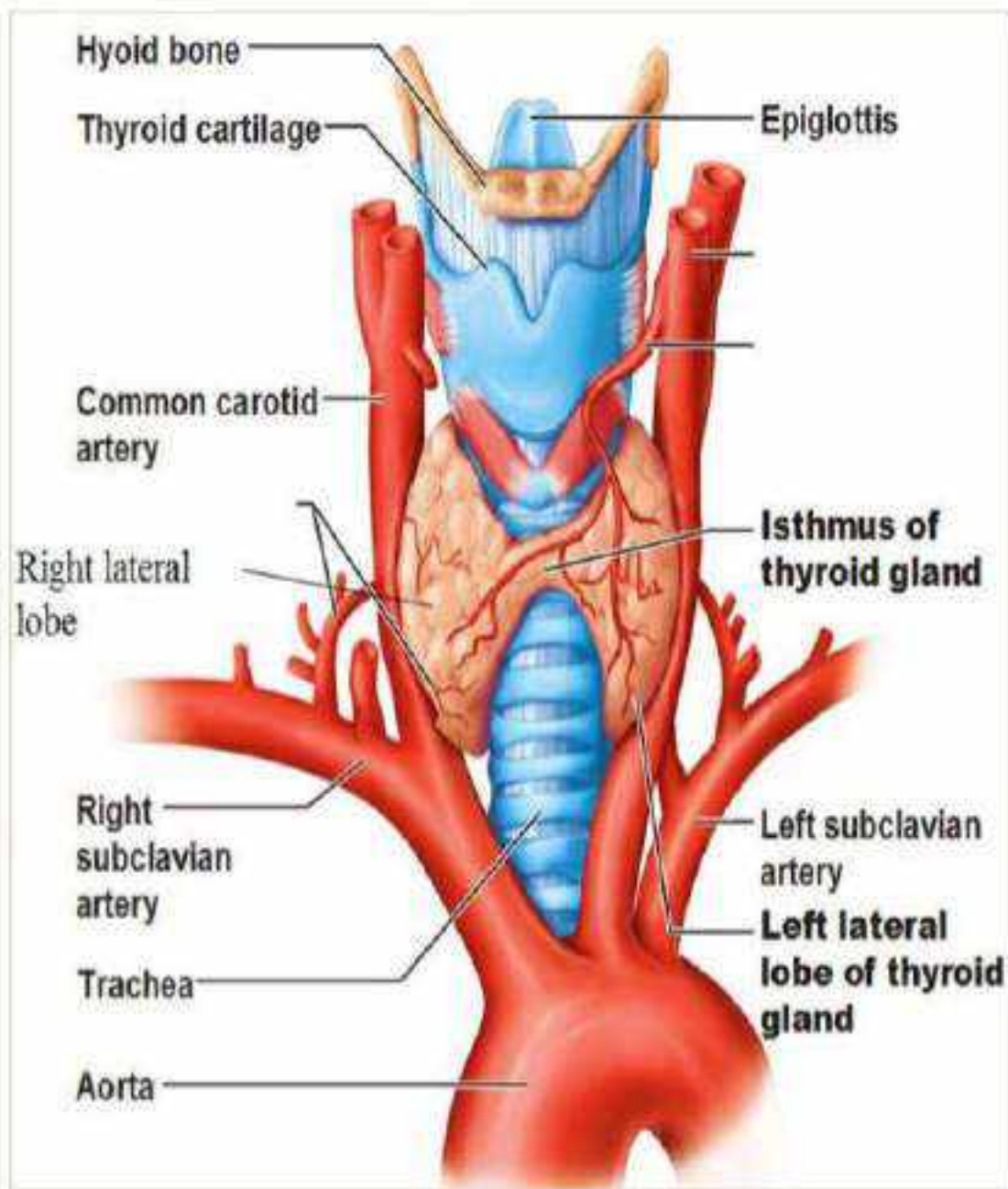
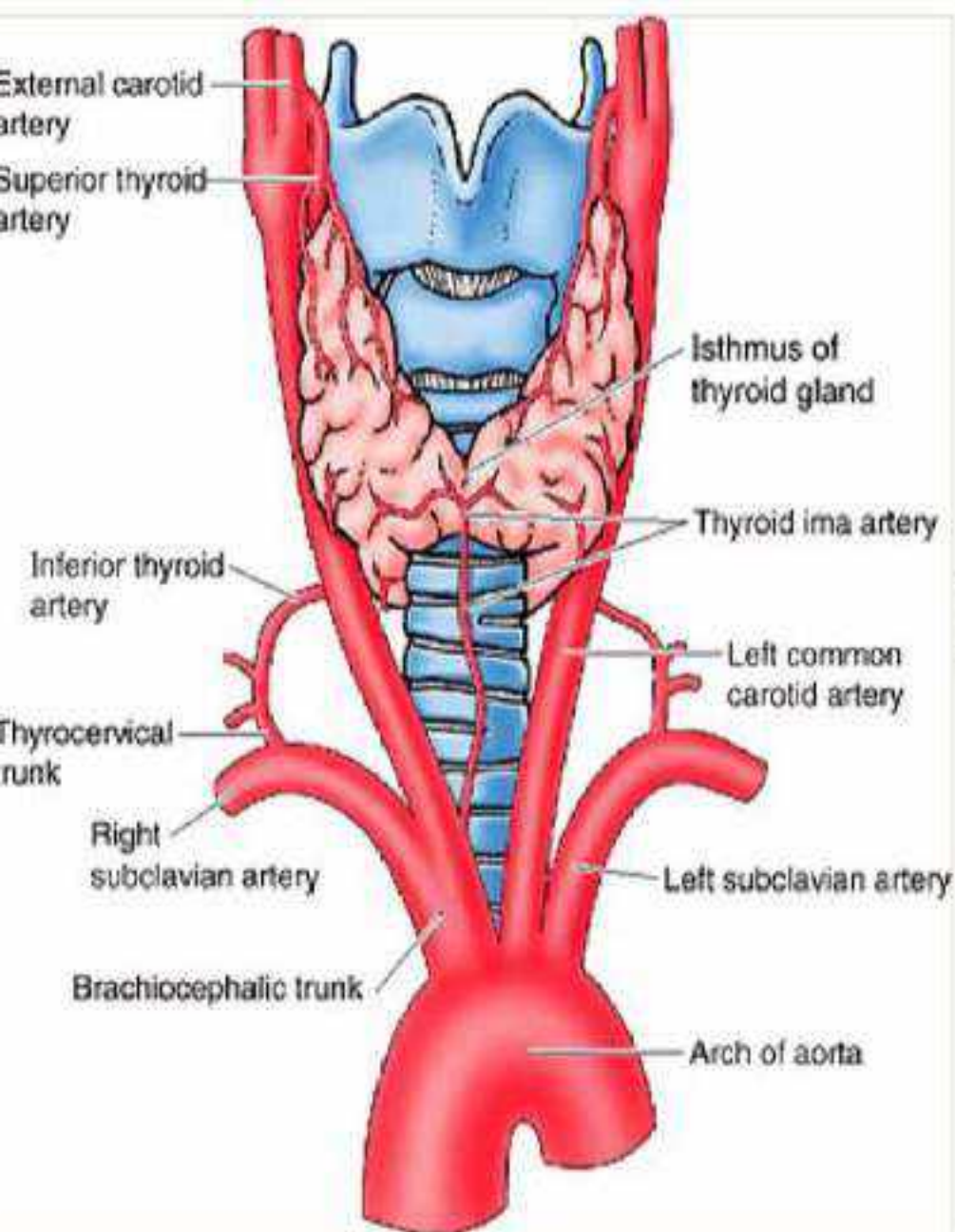
— Sir William Osler

resty).

What is the arterial supply to the thyroid gland ?

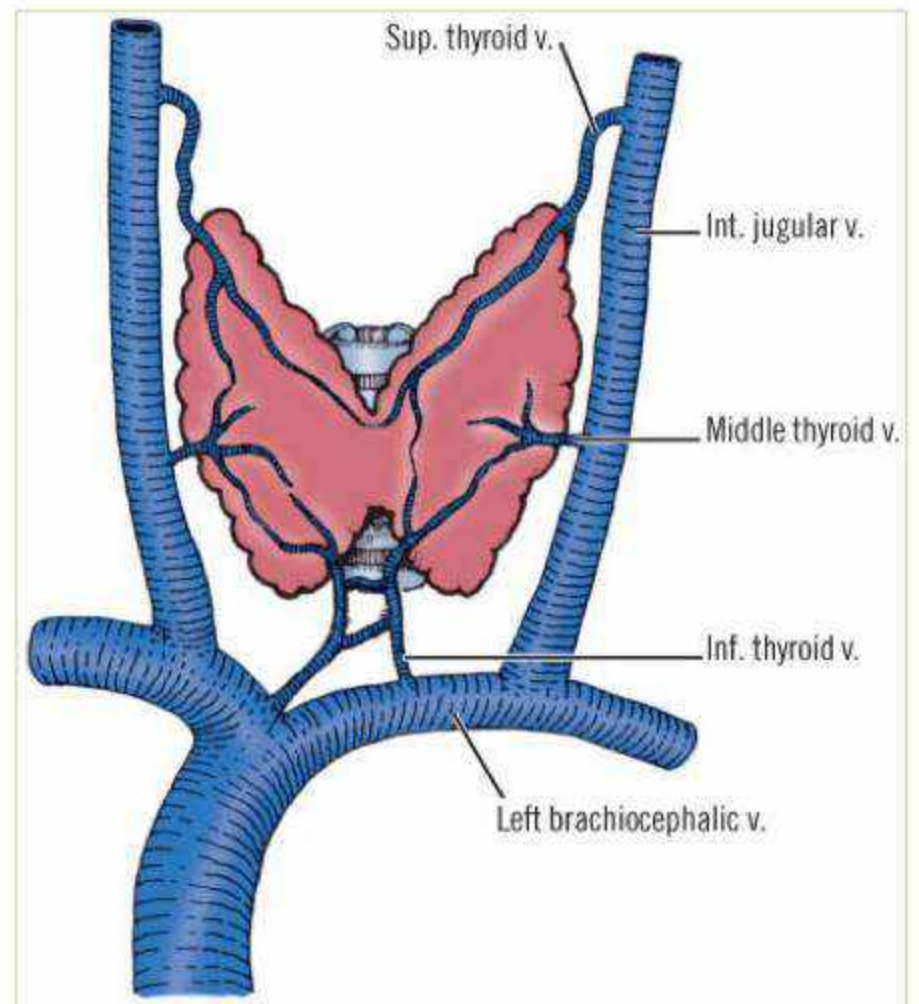
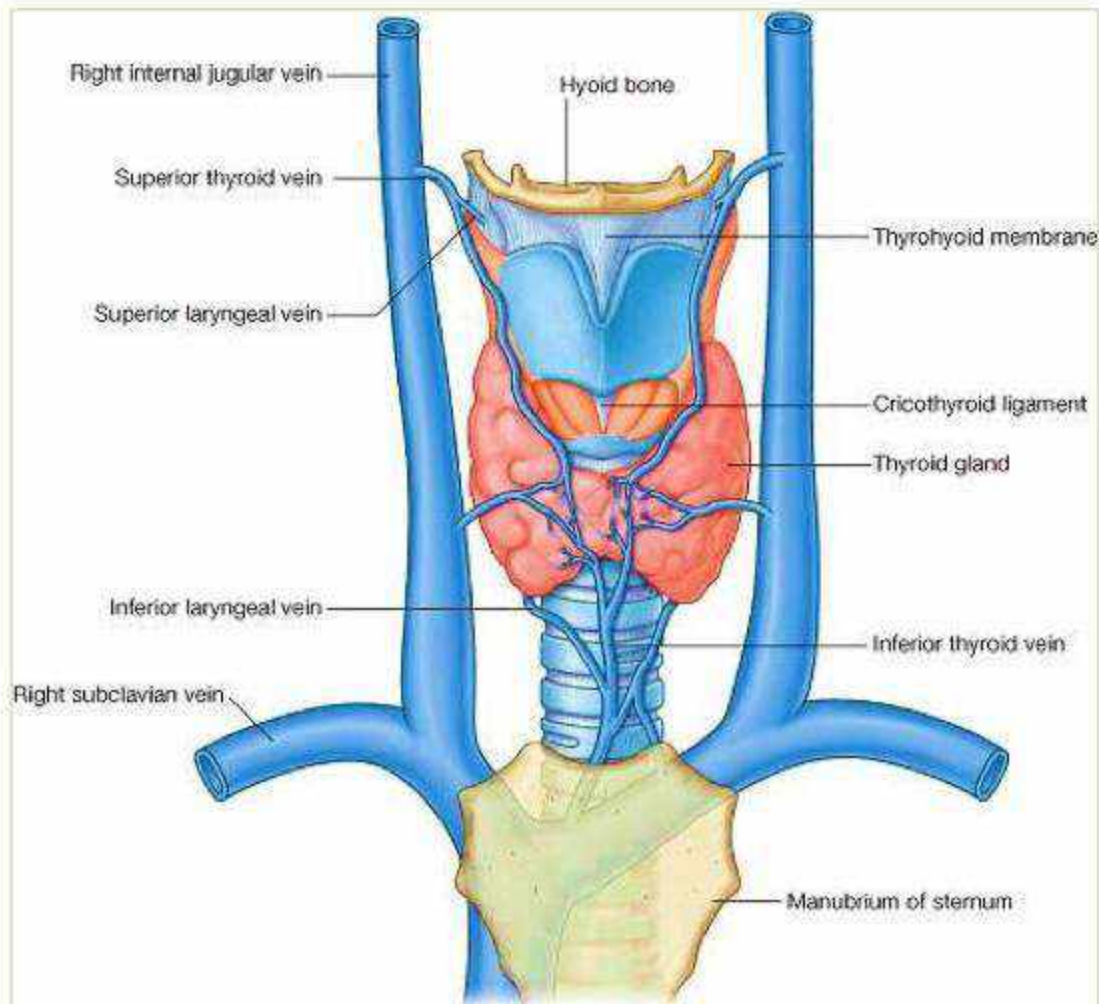
1. Superior thyroid artery ...first branch of external carotid artery .
2. Inferior thyroid artery : Arises from the thyrocervical trunk which is branch of the first part of the sub-clavian artery
3. Thyroidea ima A : may be arise from the arch of aorta **accessory tracheal and bronchial vessels.**

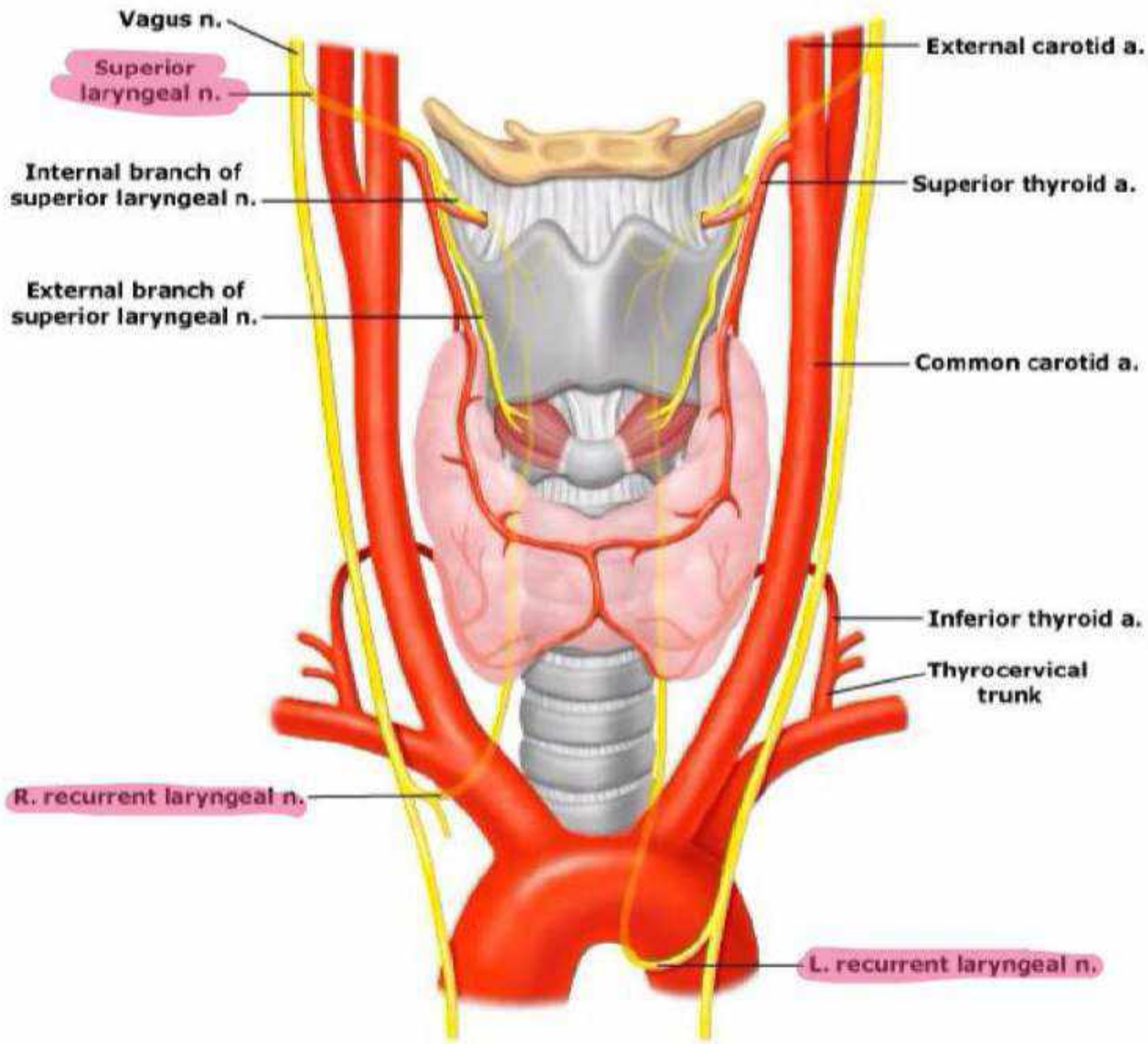
Approximately only 10% of people has this artery



What is the venous drainage the thyroid gland?

1. Superior and middle thyroid V :To the internal jugular vein (IJV)
2. Middle thyroid V: drain to the IJV
3. Inferior thyroid vein :drain into left innominate vein
4. Kocher's vein is rarely found (vein in between middle and inferior thyroid vein).







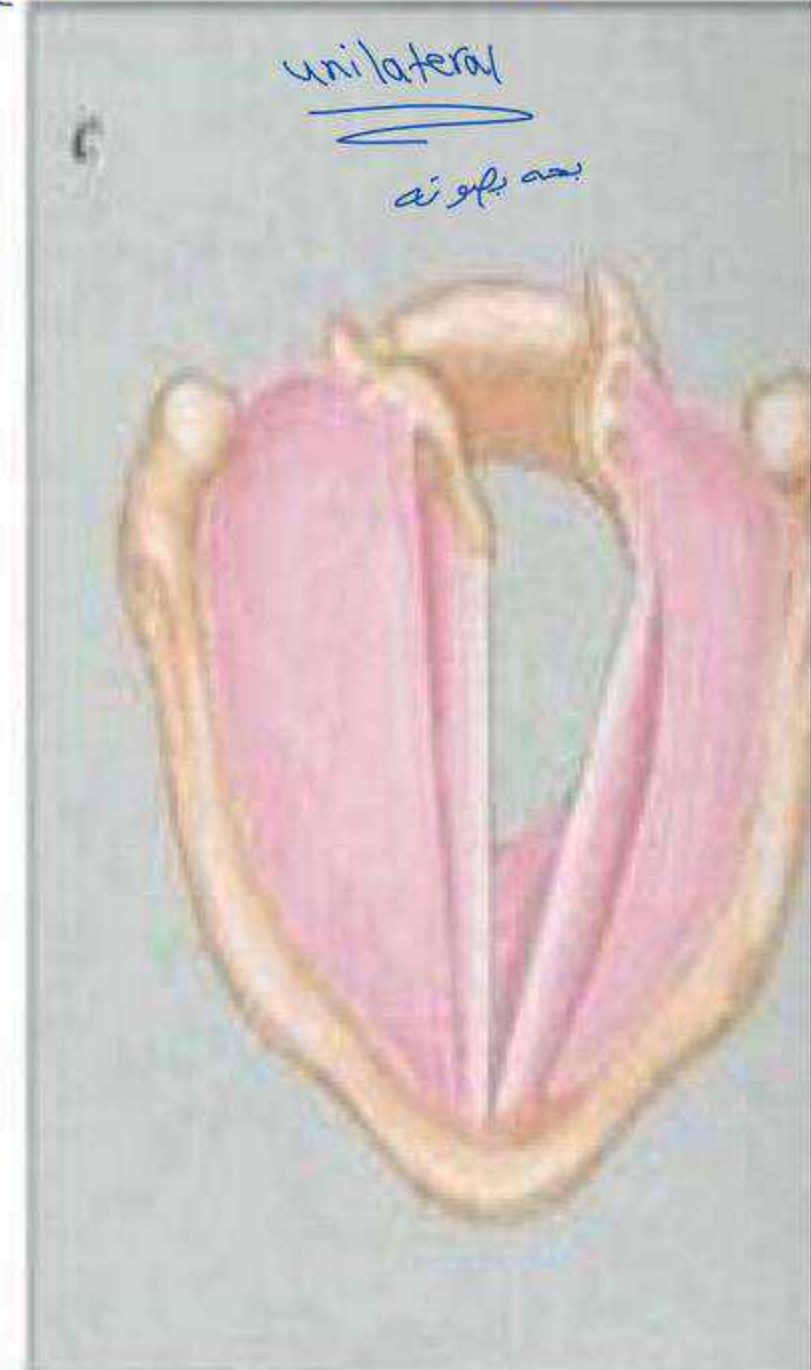
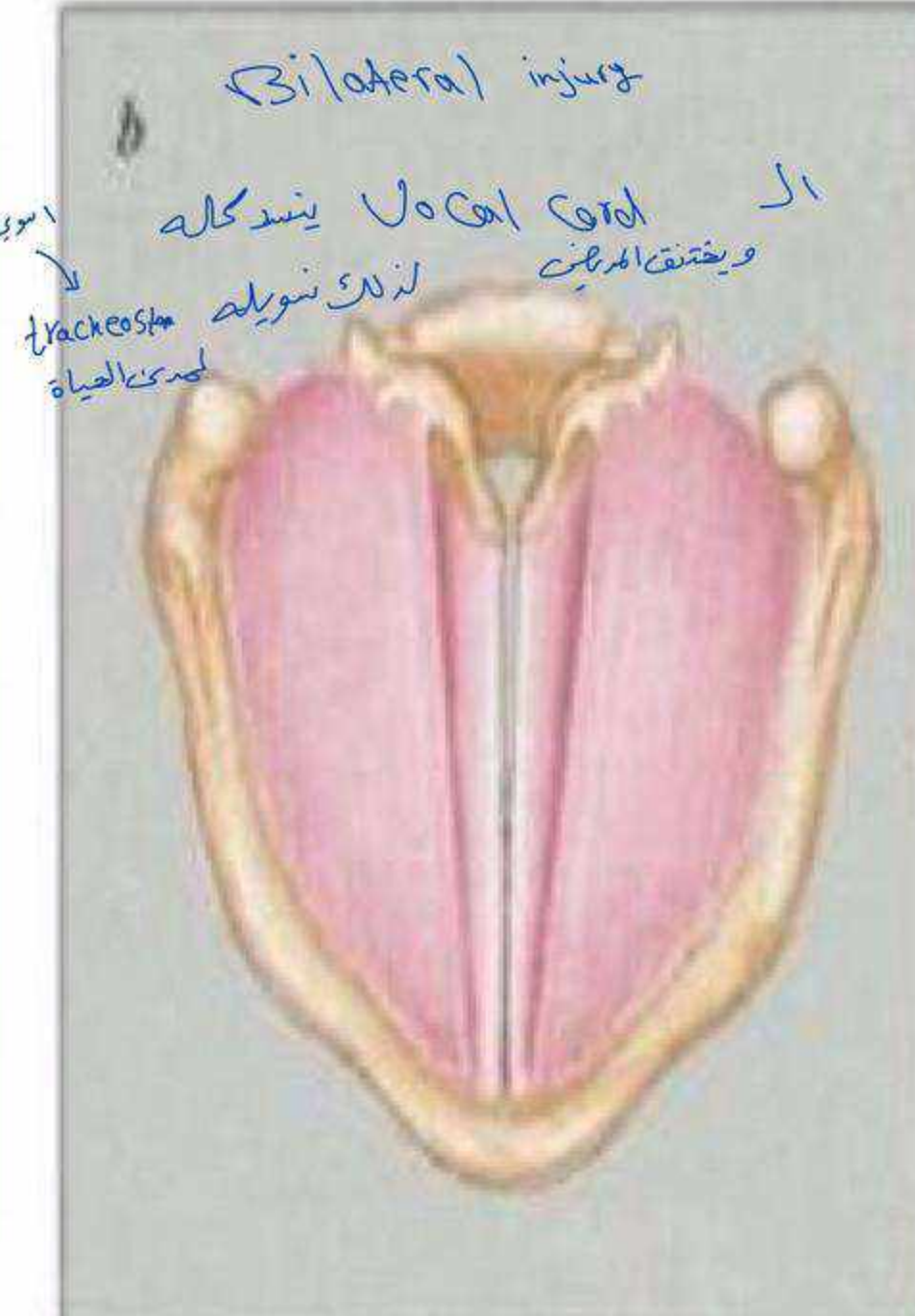
Bilateral Nerve Injury

may severely compromise airflow, necessitating tracheostomy

VOCAL CORD PARALYSIS



* اول ما يلاحظه المريض راح الرضا الـ hoarseness
 * حسب الـ type of injury يفتقر المريض (هون المريض)



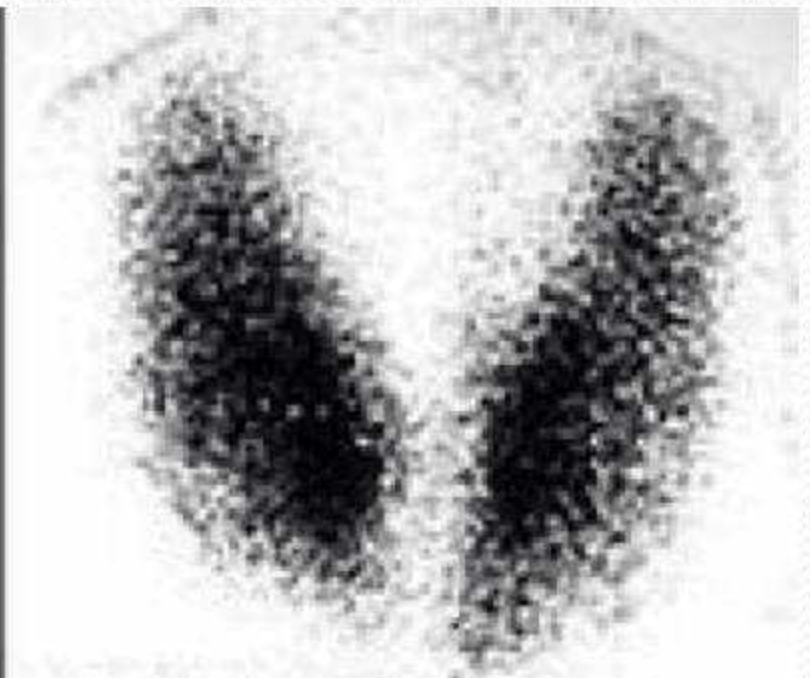
FNAC



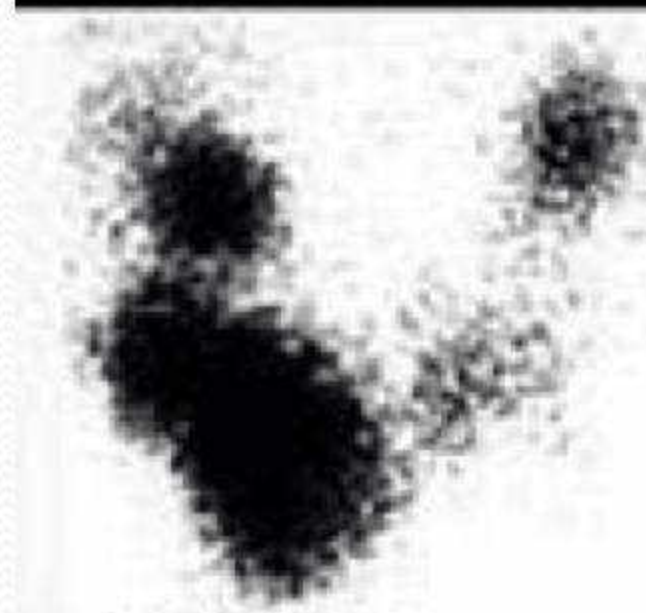
ISOTOP SCAN STUDY



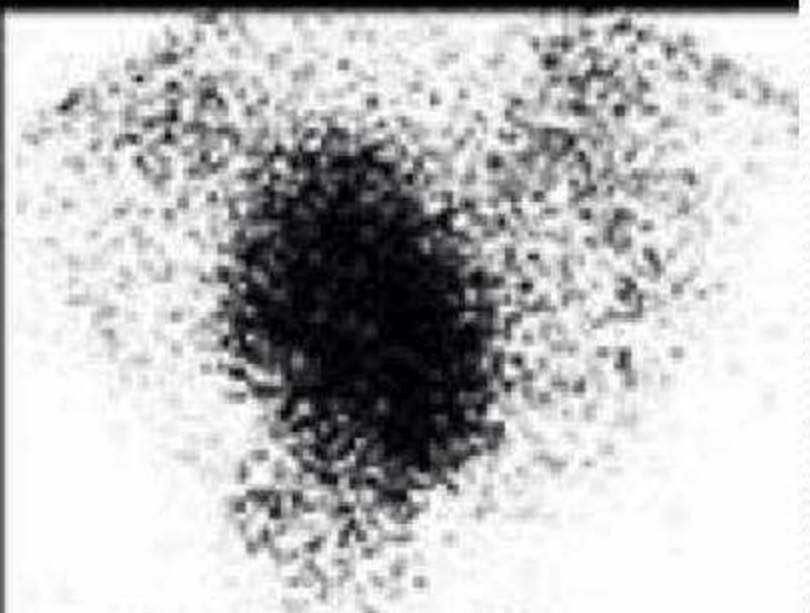
A. Normal



B. Graves' disease



C. Toxic mng



D. Toxic adenoma

Infantile cretinism

A hoarse cry,
macroglossia
and umbilical
hernia



A



B



C

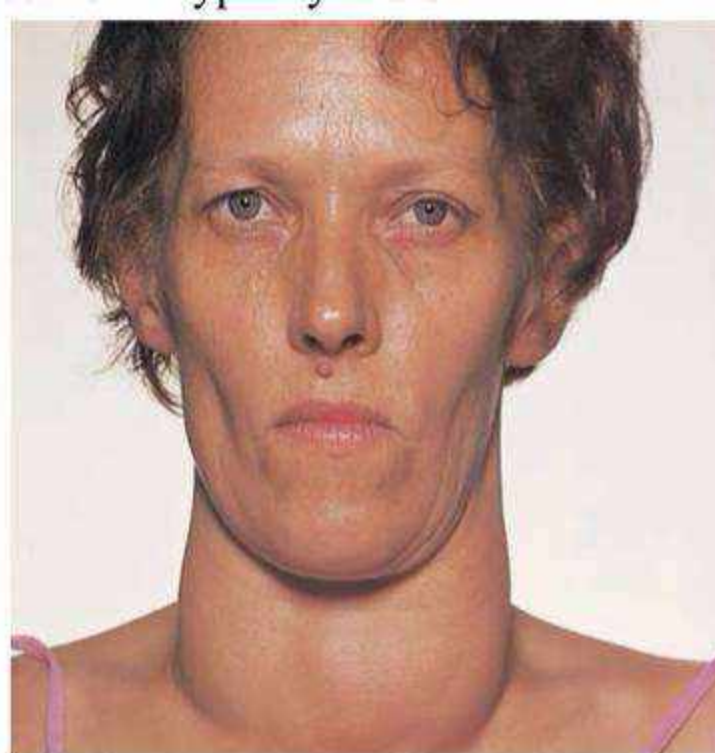


- **Delayed relaxation** of the ankle jerk reflex is the most useful clinical sign in making the diagnosis





A small diffuse goitre



A large goitre, with muscle wasting of the face and shoulder girdle – no eye signs.

C- Is the patient look in agitation, restlessness or apathy and lethargy state ?



**Typical facies of Graves' hyperthyroidism.
(Agitation)**



The facies of myxedema (apathic face).

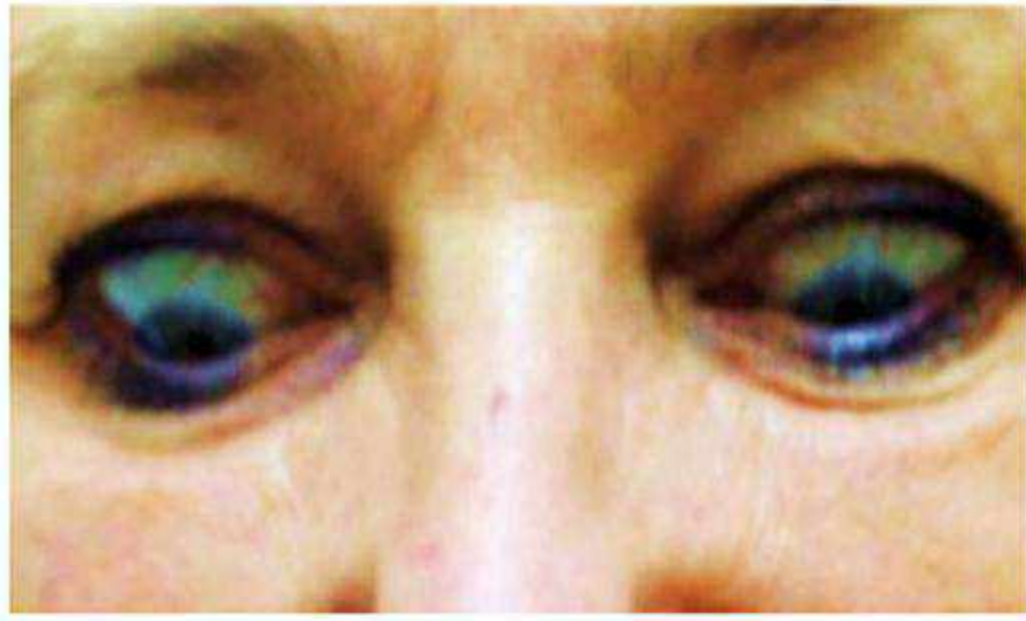
Thinning of the hair, loss of the outer third of the eyebrows, 'peaches and cream' complexion, thickening and heaviness of the eyelids.



Myxoedema. Note the bloated look, pouting lips and dull

2- Lid lag and Lid retraction:

Lid lag : failure of upper lid to follow downward movement of eyeball



Lid retraction: If the upper eyelid is higher than normal and the lower lid is in its correct position, the patient has lid retraction. This sign is caused by over-activity of the involuntary (smooth muscle) part of the levator palpebrae



Unilateral lid retraction.



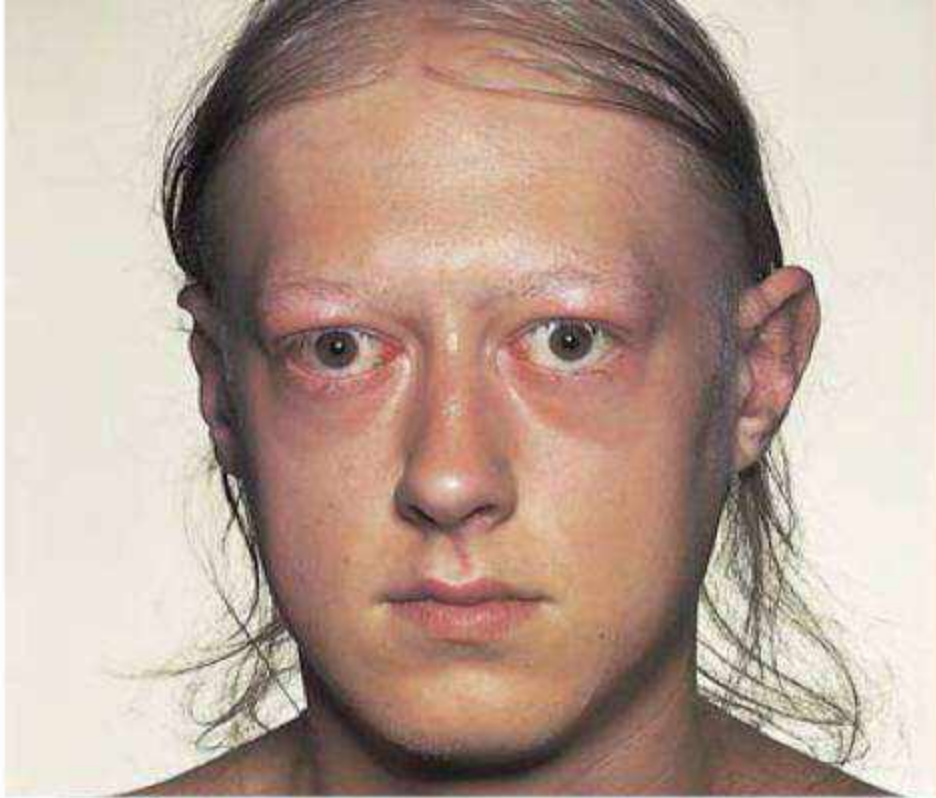
Exophthalmos and lid retraction.



Severe lid retraction but no exophthalmos.

Lid retraction

Exophthalmos



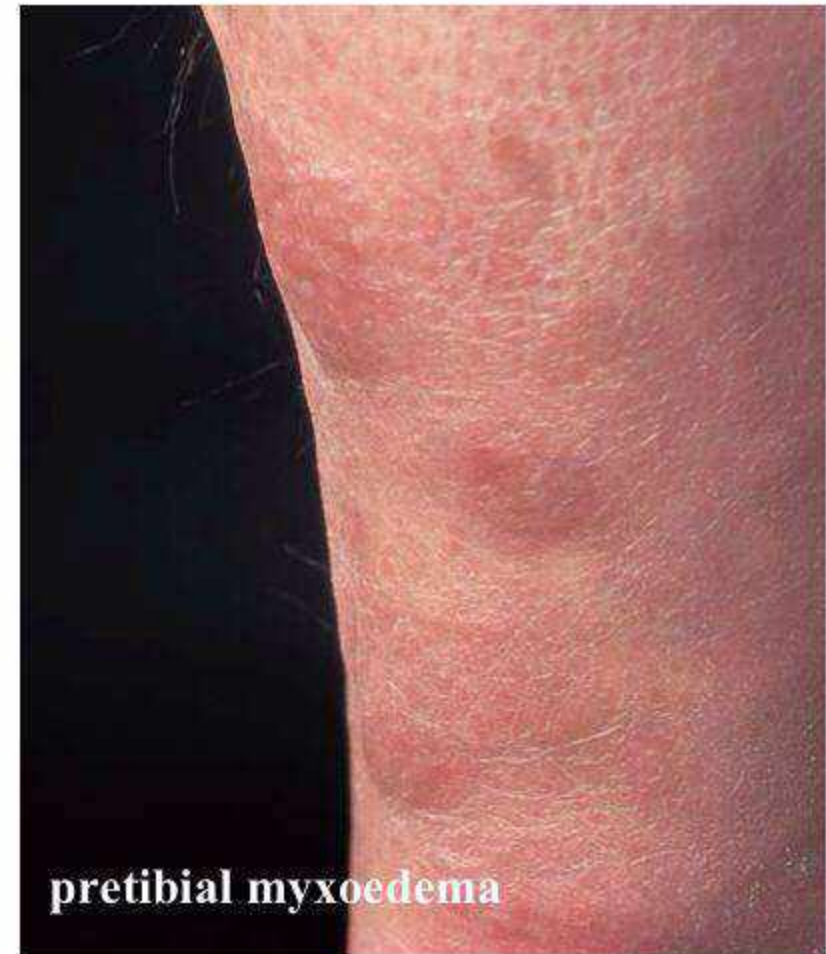
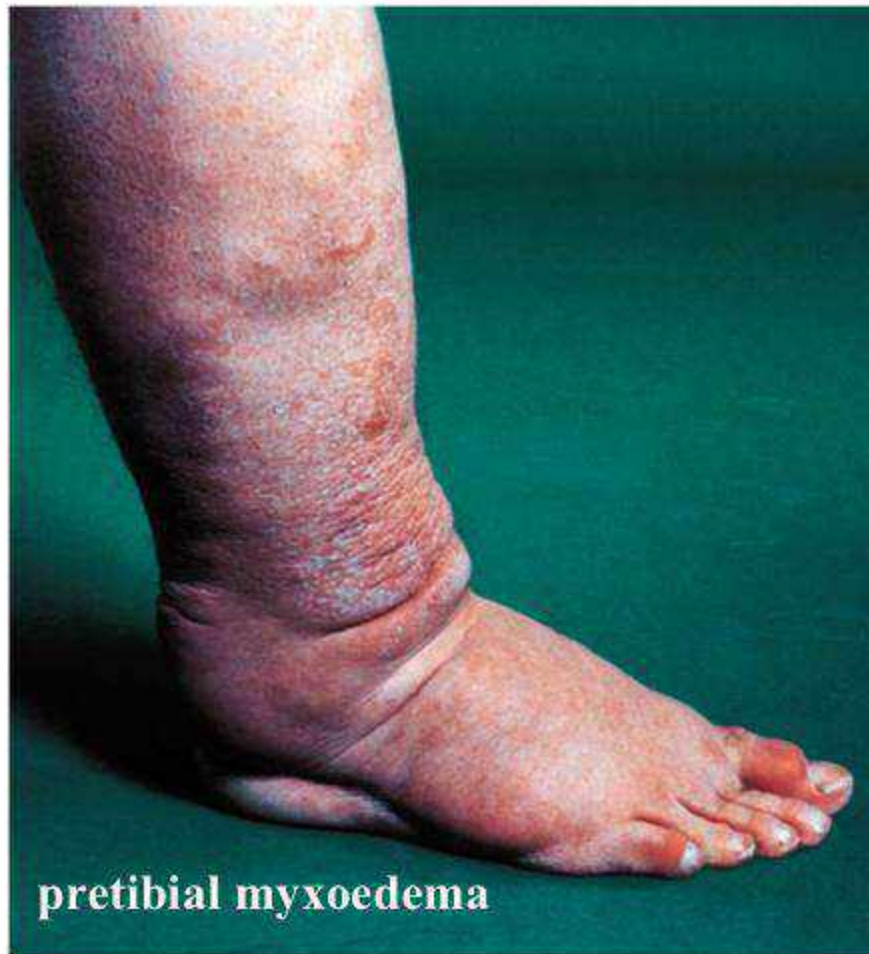
Exophthalmos.



Exophthalmos but no lid retraction.



In certain patients with Graves' disease, red, blotchy, raised areas may be seen over the shins. This is termed pretibial myxoedema and is caused by deposits of myxoid tissue within the skin.



In hypothyroidism, The reflexes are sluggish and their relaxation period prolonged.

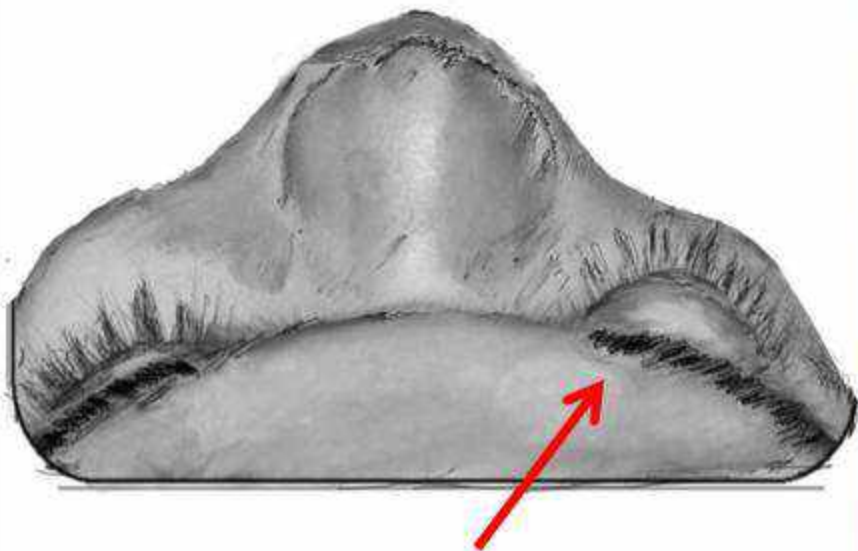


Pretibial myxoedema

Joffrey sign : Absence of wrinkling of the forehead on looking upwards . This occurs due to increase in the field of vision due to exophthalmos.



Naffziger's sign: Stand behind the patient and look at the supraciliary arch, by tilting the patient's head backwards. In normal cases, eyeball is not seen. In cases of exophthalmos, eyeball is protruded outside and hence it is seen

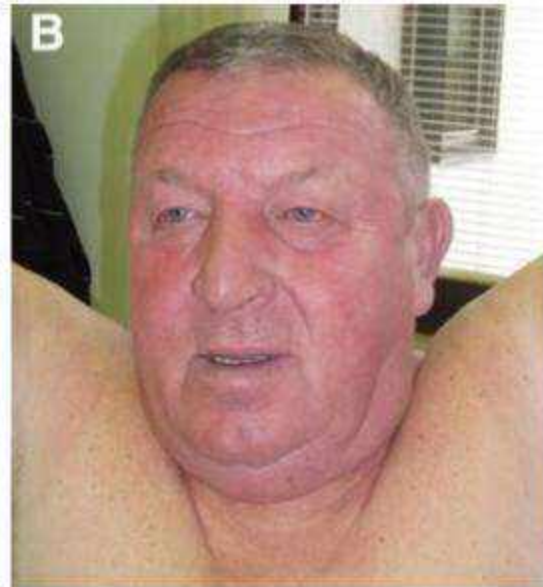


Mobius sign: Is inability to maintain convergence of the eyes , occurs due to muscle paresis as a part of thyrotoxic ophthalmoplegia.





Pizillo's method



Pomberton sign

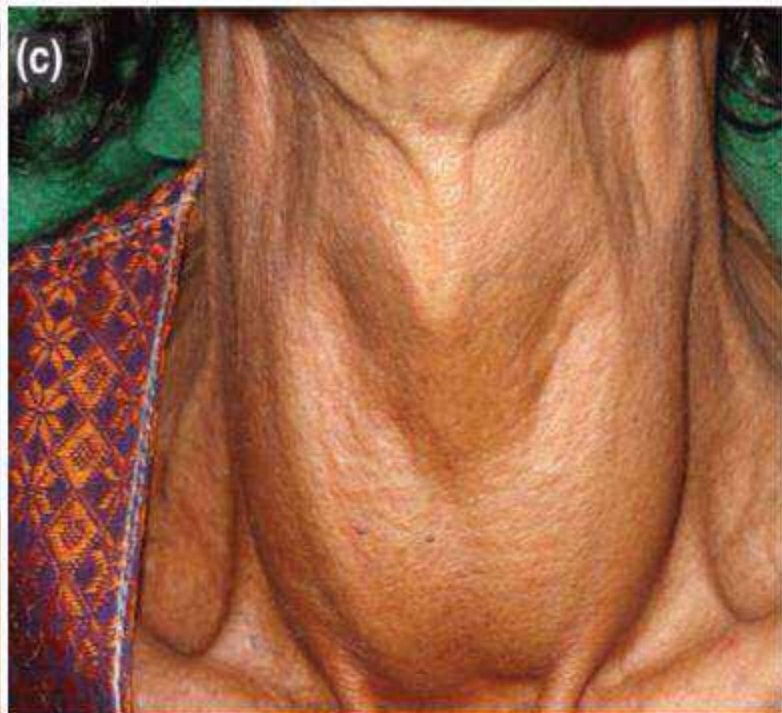


Diffuse enlargement (Colloid goitre)

Goitre



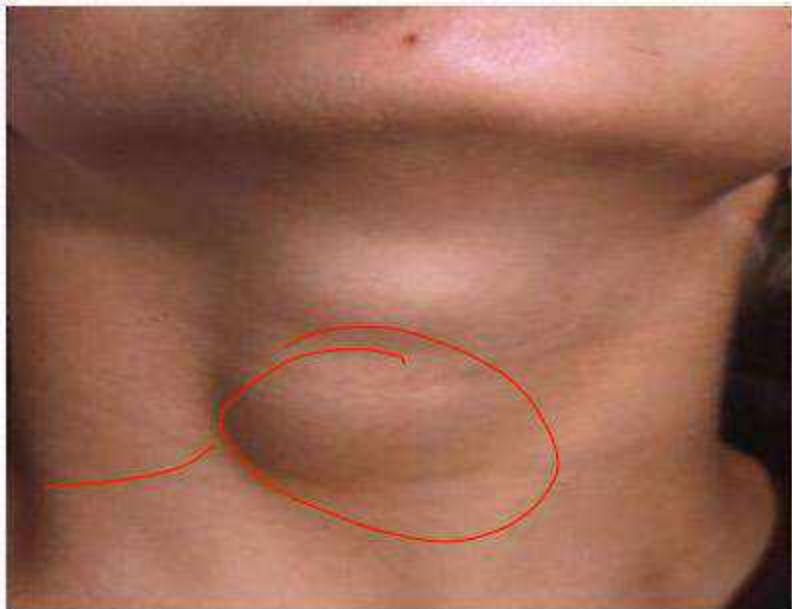
Diffuse enlargement (Colloid goitre)

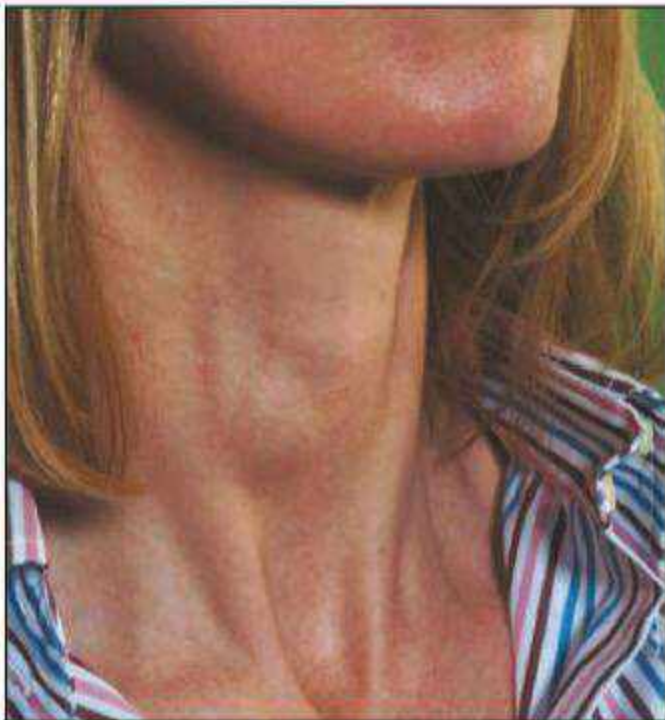


(c) diffuse enlargement

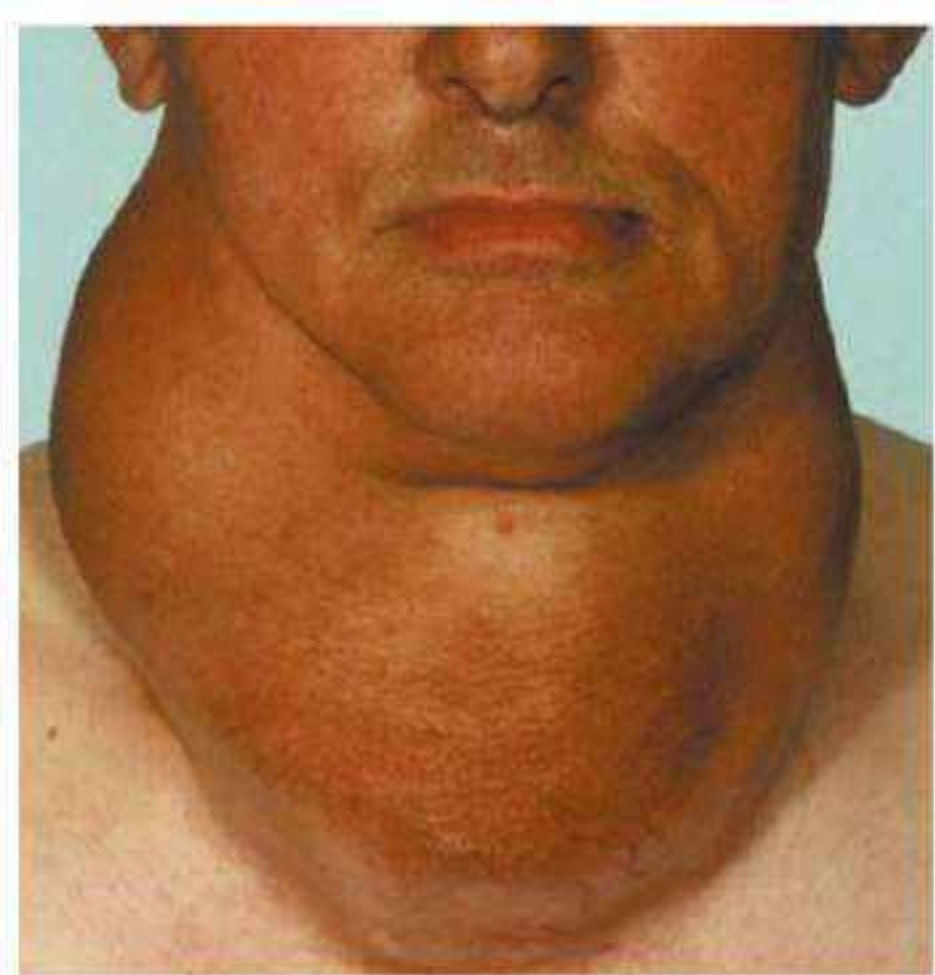


(a) solitary nodule





Isolated swelling in upper
pole right thyroid lobe.



Large Multinodular Goitre.



A large goitre causing skin changes and imminent ulceration.

e





pla

a com
al hi
rs in



In sporadic cases, it usually occurs at puberty when metabolic demands are high



Simple goiter

Complications of SG

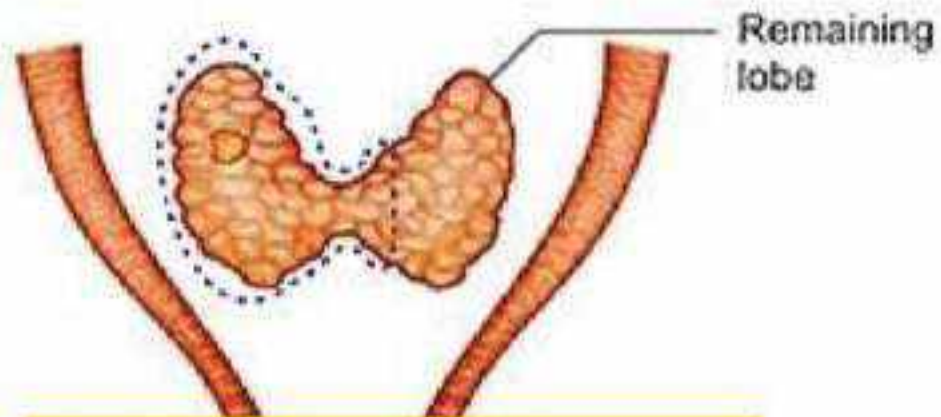
قد يكون انسداد القصبة الهوائية ناتجاً عن إزاحة جانبية إجمالية أو ضغط في المستوى الجانبي أو الأمامي الخلفي عن طريق الامتداد الخلفي لتضخم الغدة الدرقية

✓ **Tracheal obstruction** may be due to gross lateral displacement or compression in a lateral or anteroposterior plane by retrosternal extension of the goitre

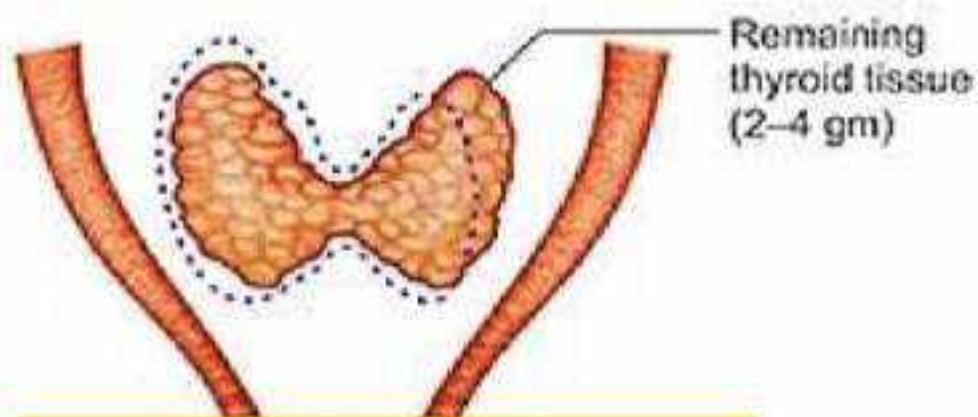
. **Acute respiratory obstruction** may follow haemorrhage into a nodule impacted in the thoracic inlet

قد يتبع انسداد الجهاز التنفسي الحاد نزيفاً في العقيدات المتأثرة في المدخل الصدري

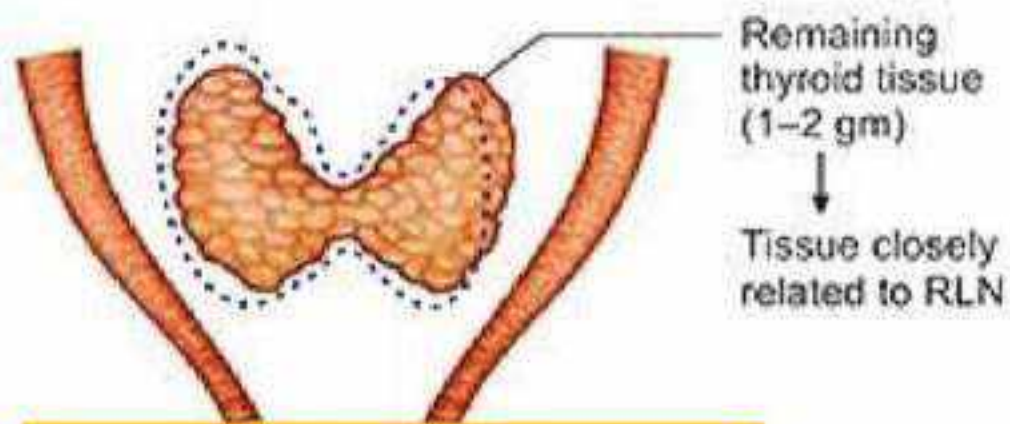




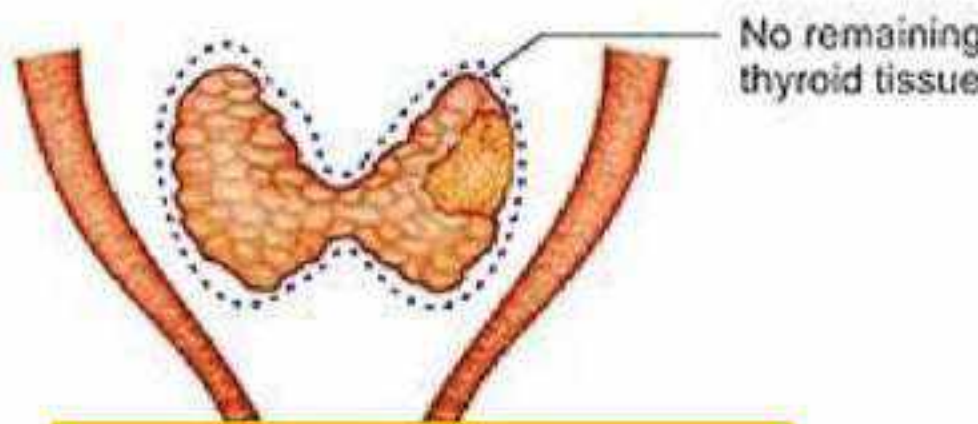
Lobectomy + isthmusectomy



Subtotal thyroidectomy

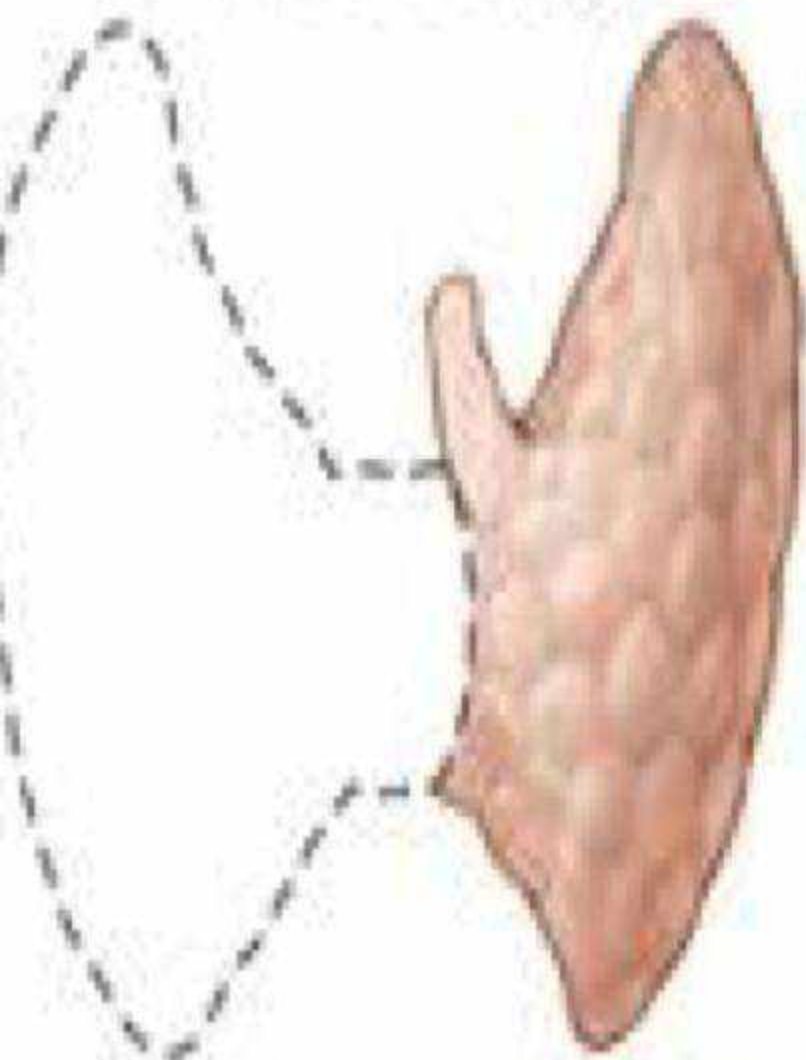


Near-total thyroidectomy

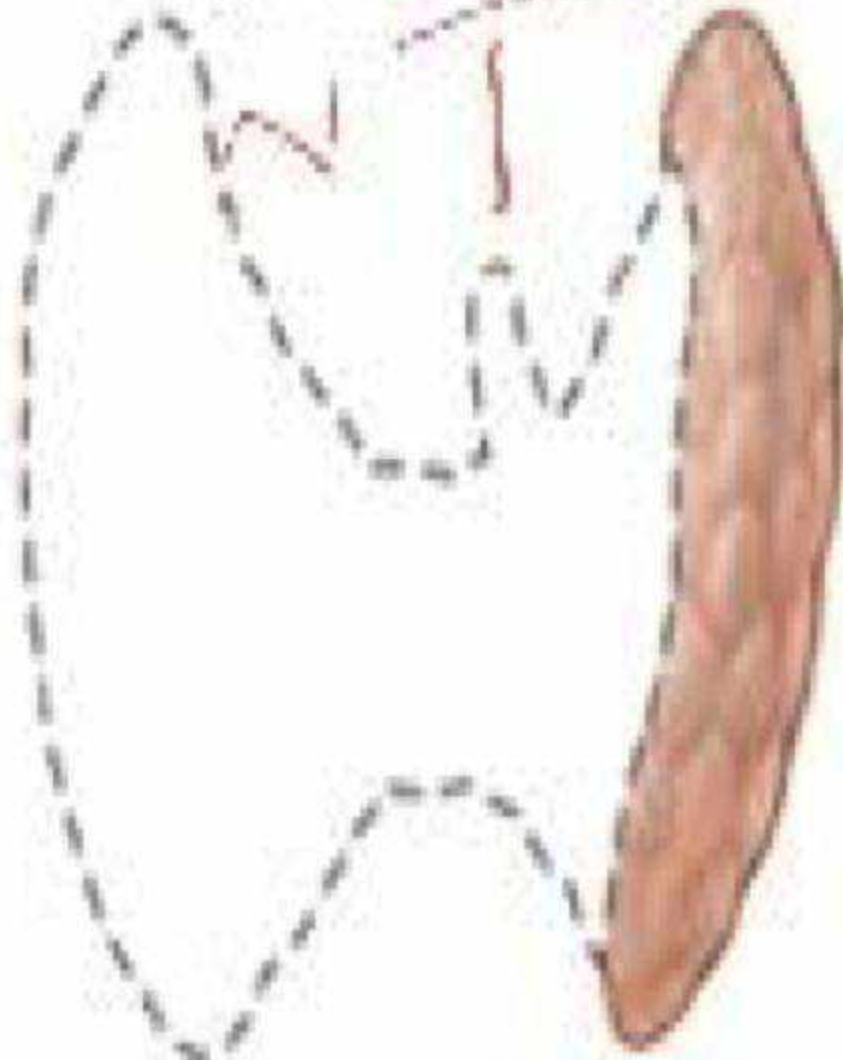


Total thyroidectomy

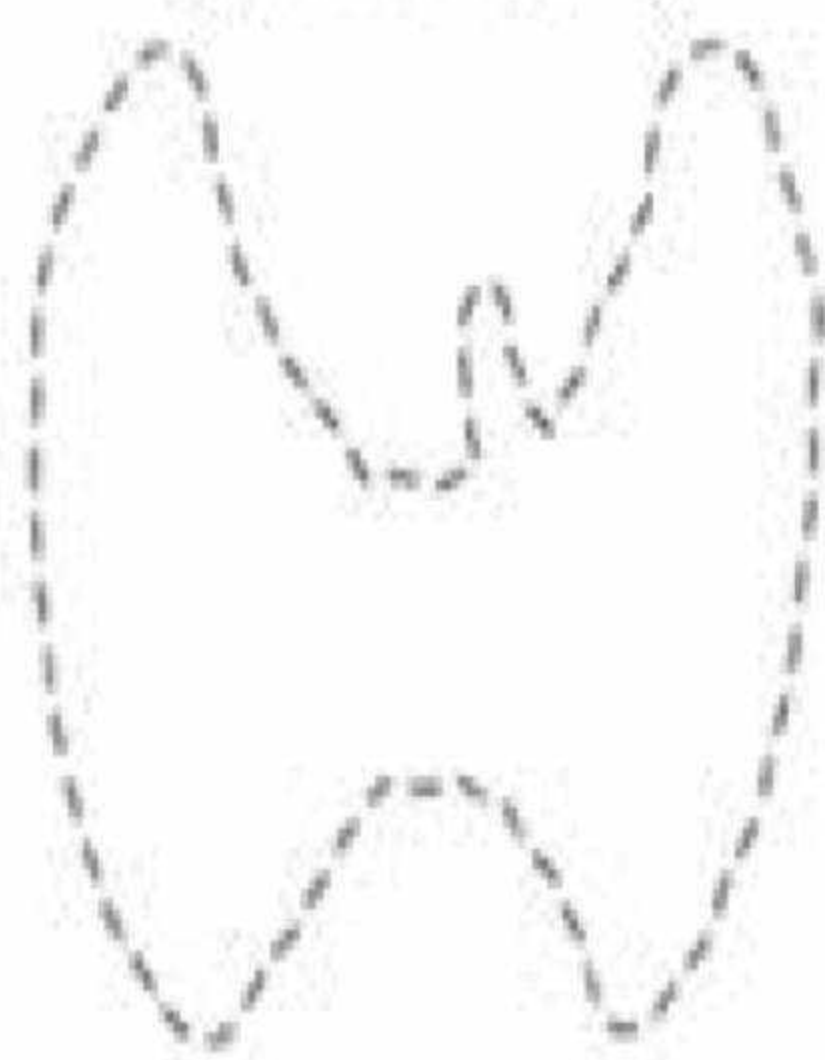
Thyroid
lobectomy



Subtotal
thyroidectomy



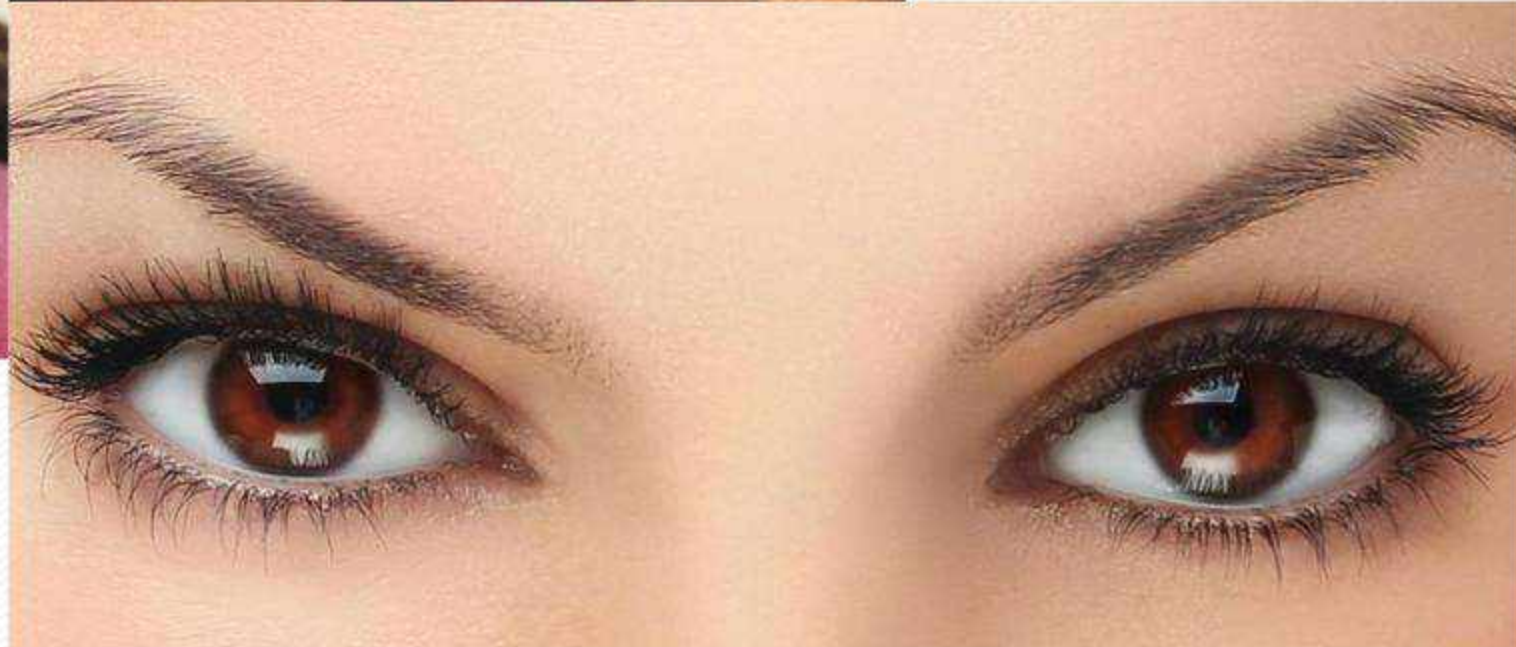
Total
thyroidectomy

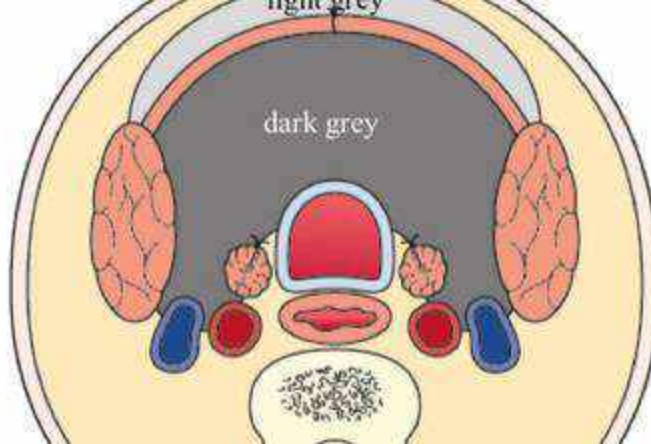






Lid retraction and exophthalmos

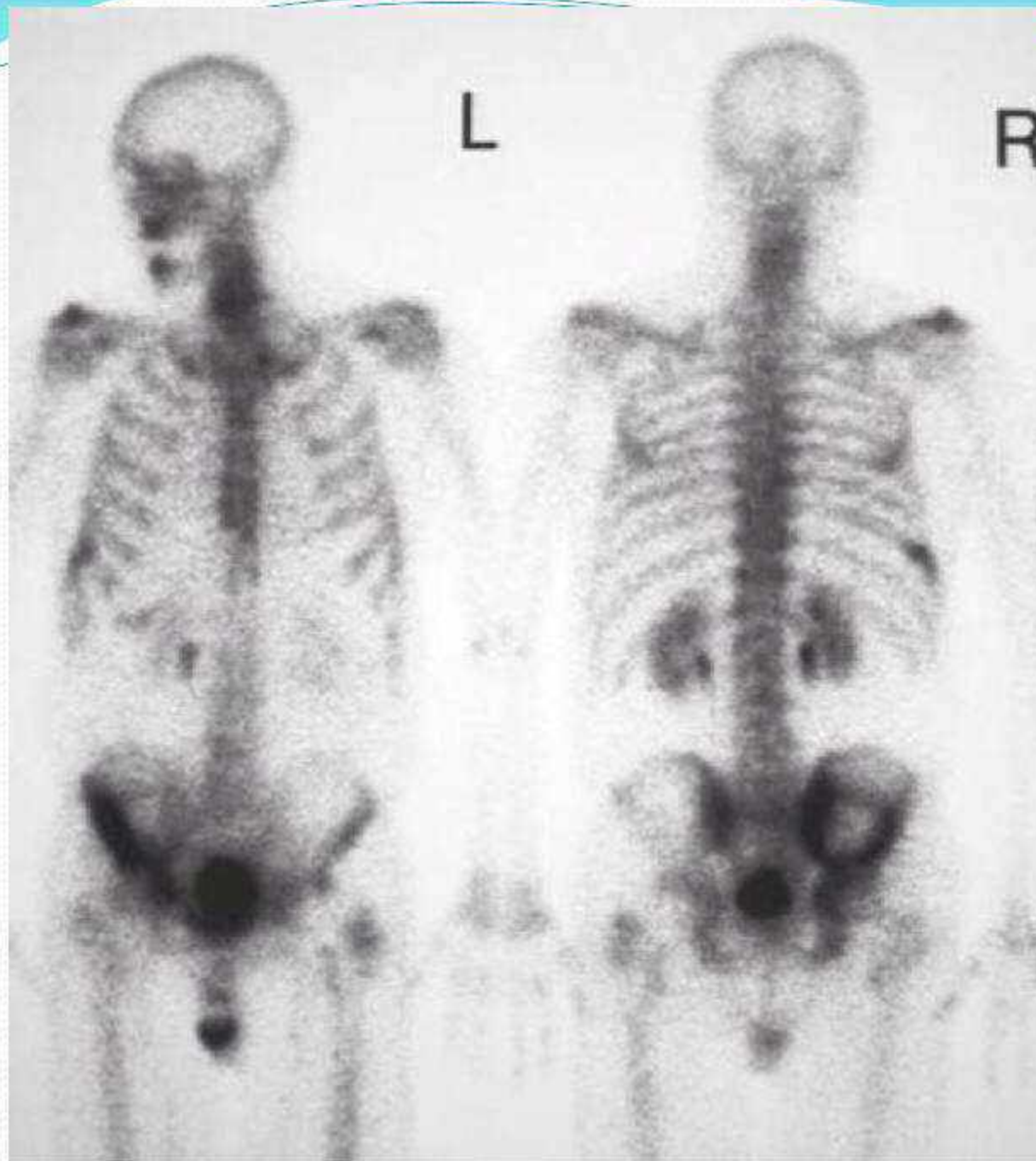




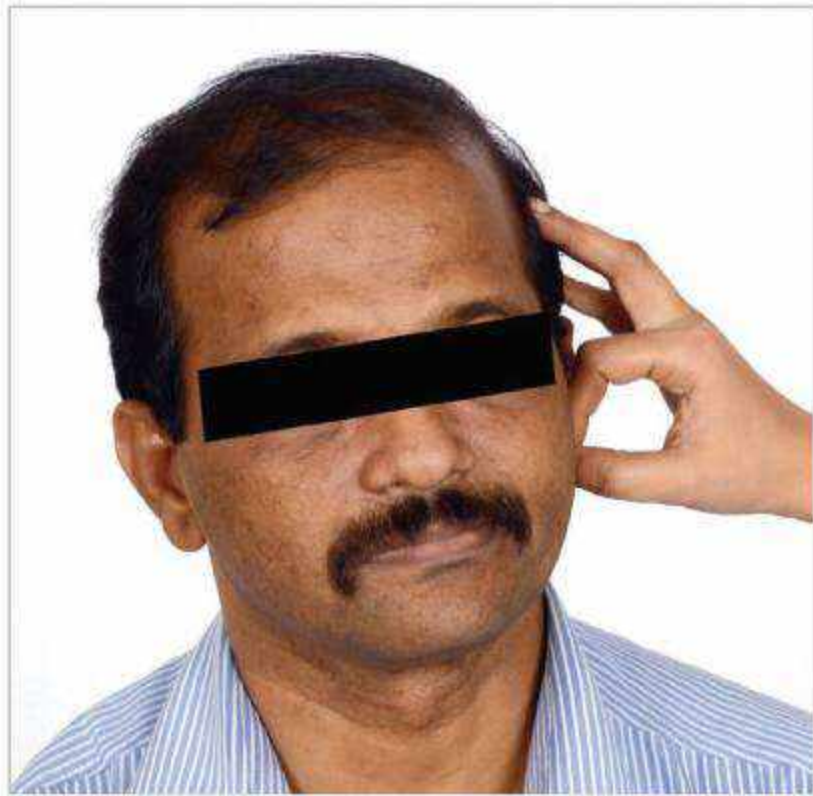


Hypertrophic or keloid scar

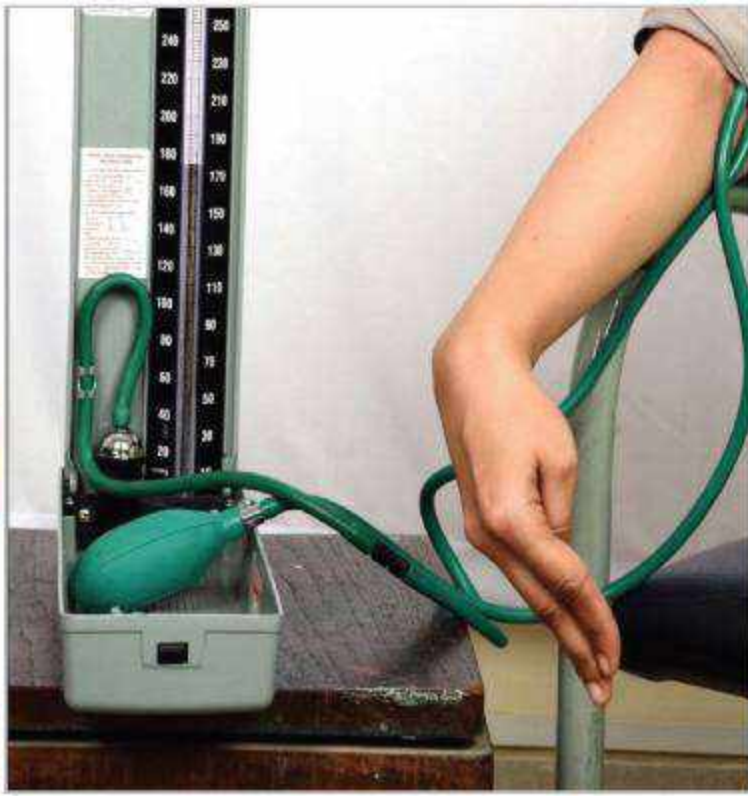




Whole body scan after total thyroidectomy and high dose radioiodine for follicular carcinoma showing metastases in right shoulder, ribs and pelvis



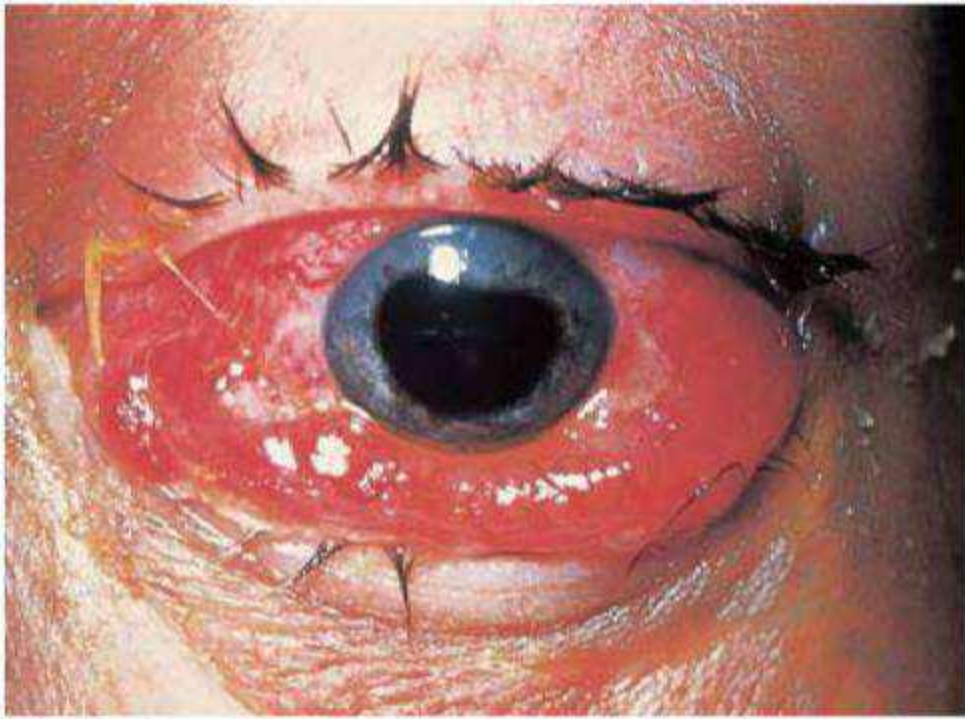
Chvostek's sign



Trousseau's sign



Carpopedal spasm



Chemosis. The conjunctiva is hyperaemic and bulging over the eyelid. There is exophthalmos, lid retraction and peri-orbital oedema.



Severe inflammatory thyroid eye disease



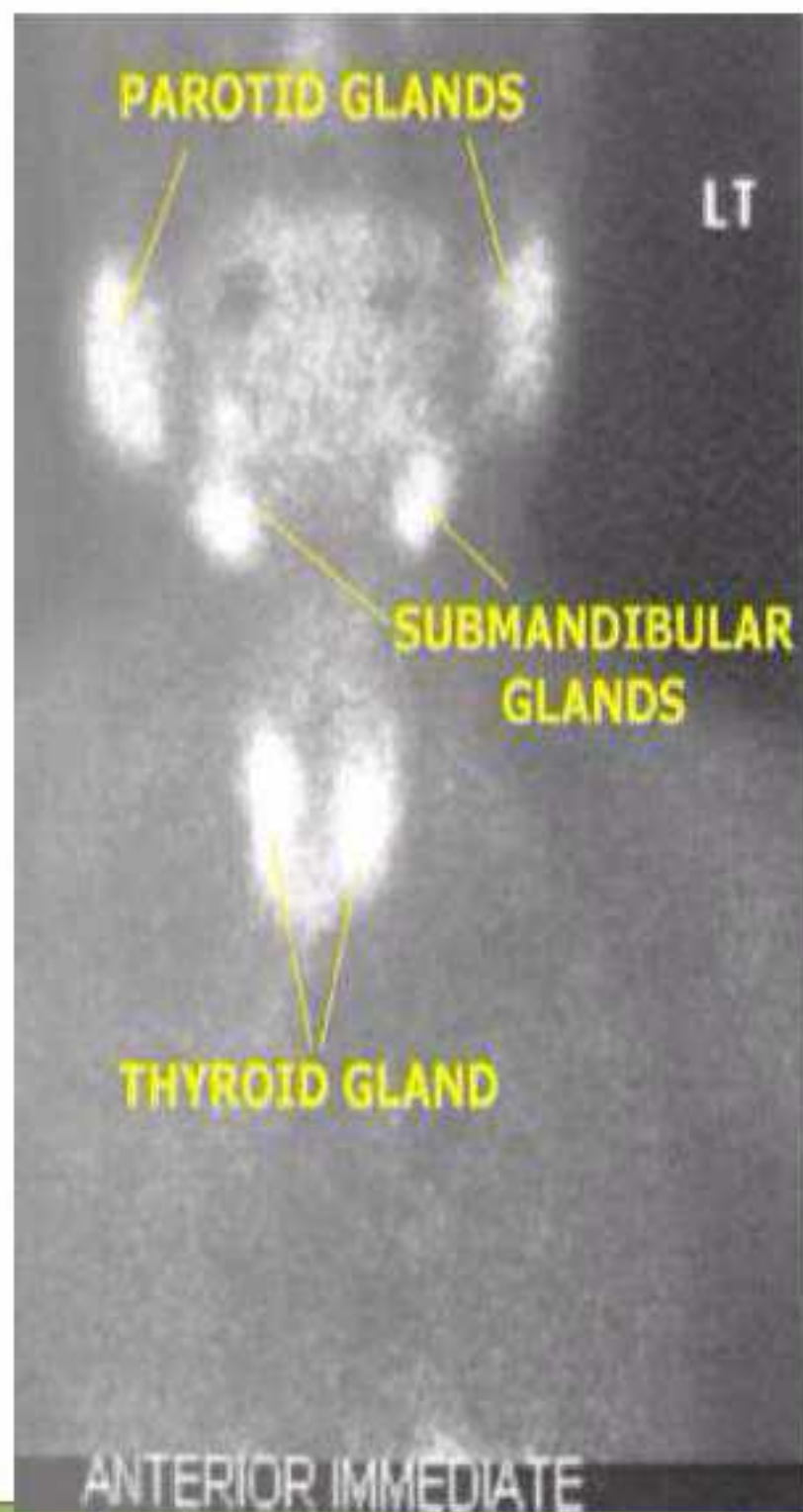
Severe Graves' ophthalmopathy

Parathyroid carcinoma

Cancer of the parathyroid is rare accounting for 1 per cent of cases of hyperparathyroidism

Typical features are very high calcium and PTH levels often with a palpable neck swelling or occasionally lymphadenopathy





Dalrymple's sign

Dalrymple's sign: It is one of the manifestations of Graves' ophthalmopathy. It consists of retraction of the upper eyelid so that the palpebral opening is abnormally wide and upper sclera is visible.

Normal



Upper lid halfway between pupil and superior limbus

Lower lid at a tangent to inferior limbus

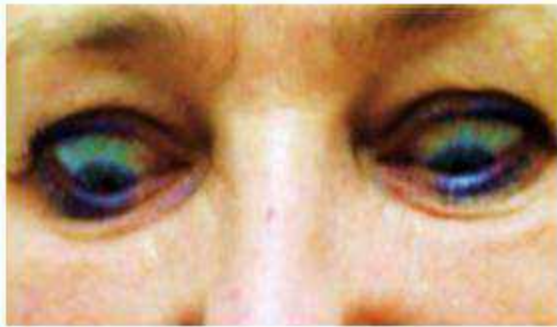
Lid retraction

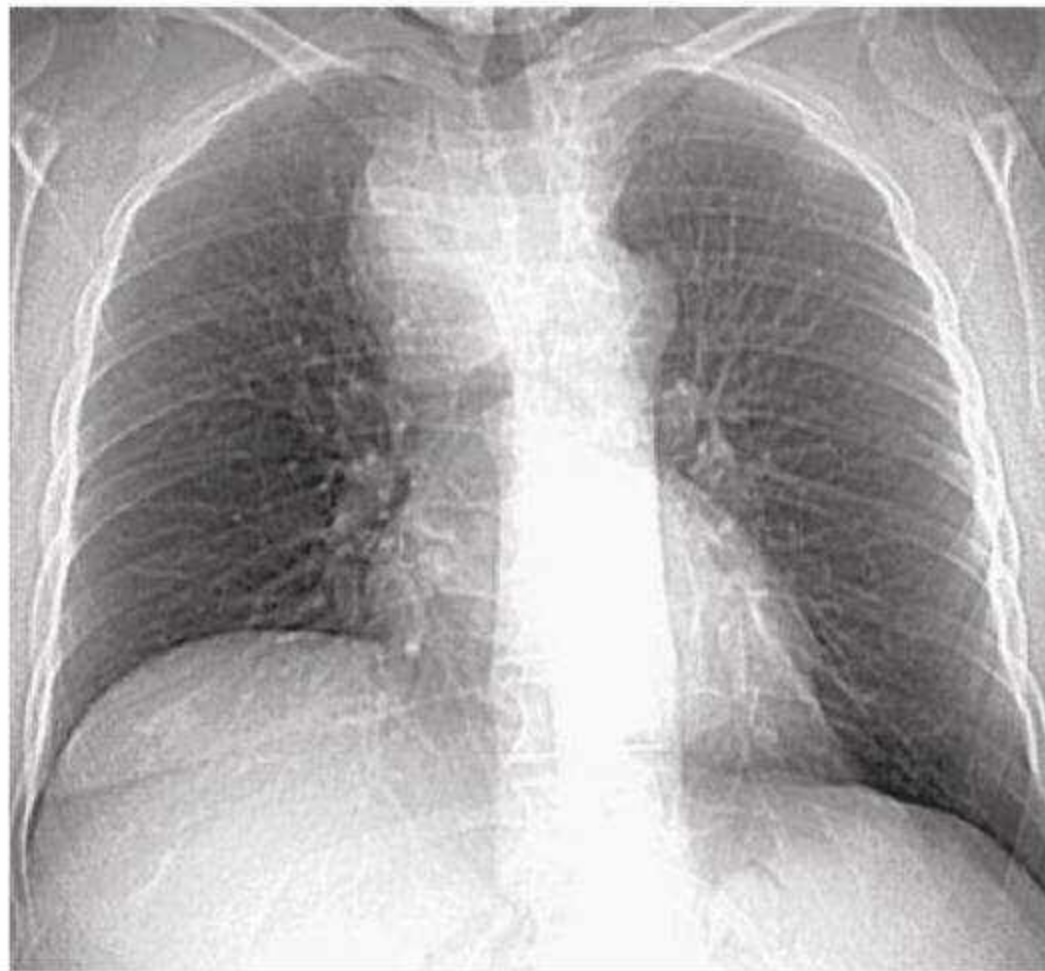
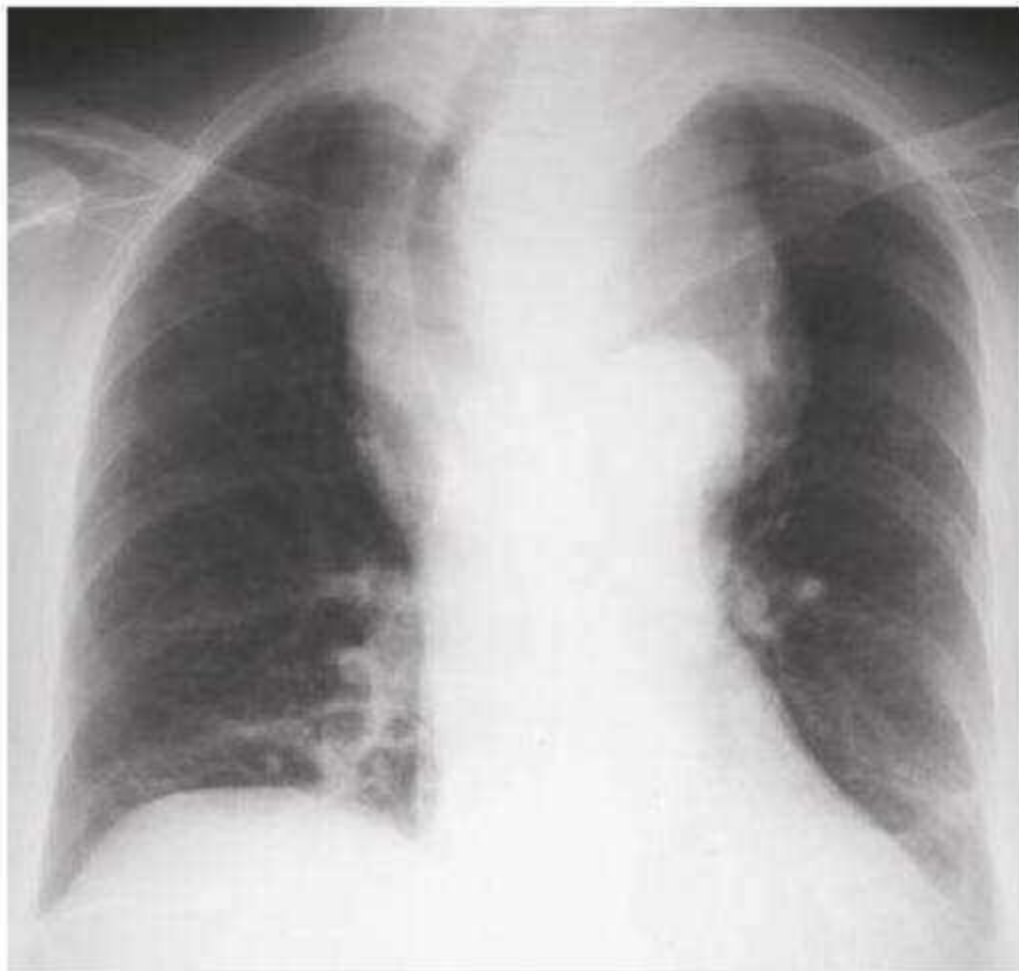


Upper lid raised }
Lower lid normal } N.B. This is not exophthalmos



von Graefe's sign: Persistent lagging of upper lid behind the corneoscleral limbus .when patient is asked to follow the finger moved up and down several times. Seen in Graves' disease

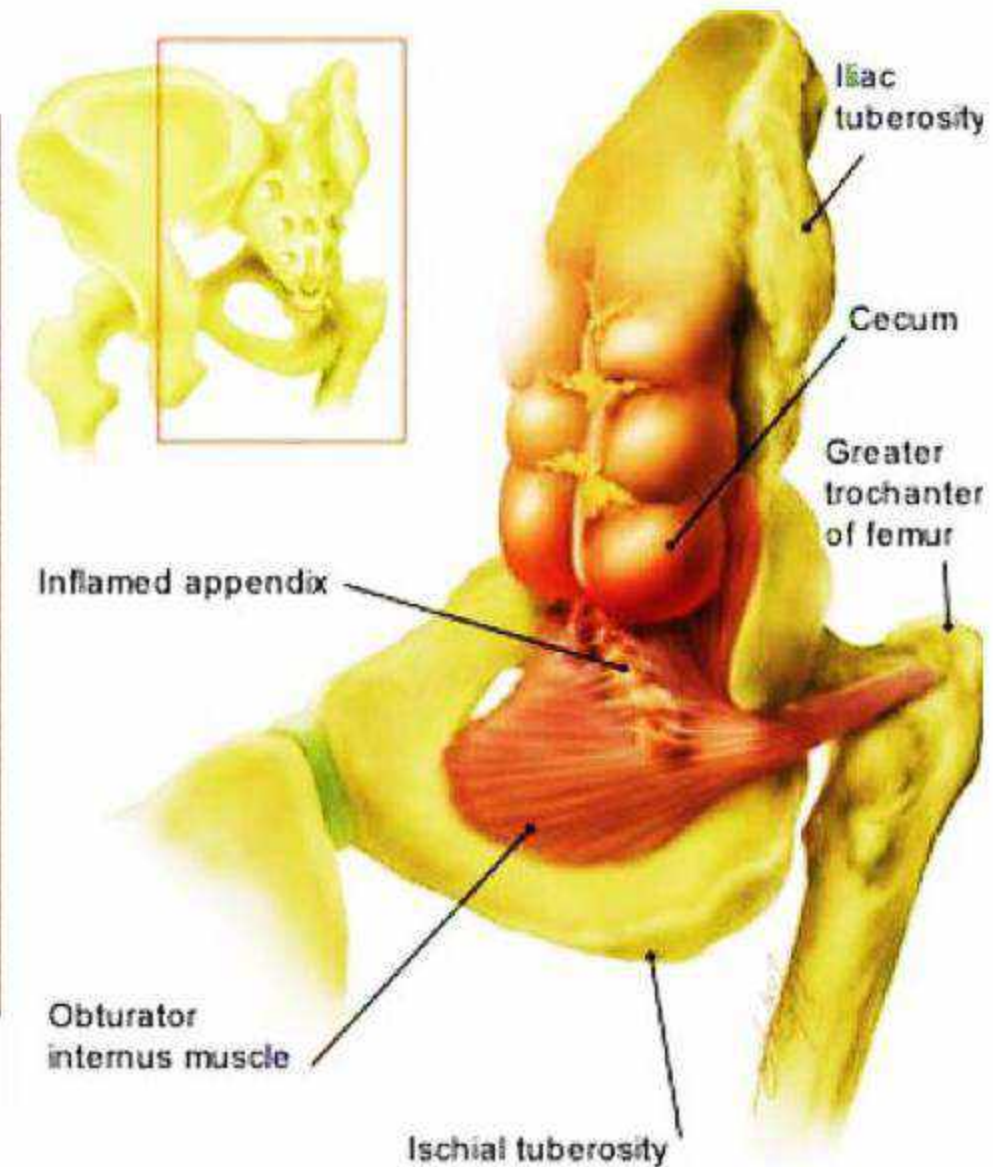
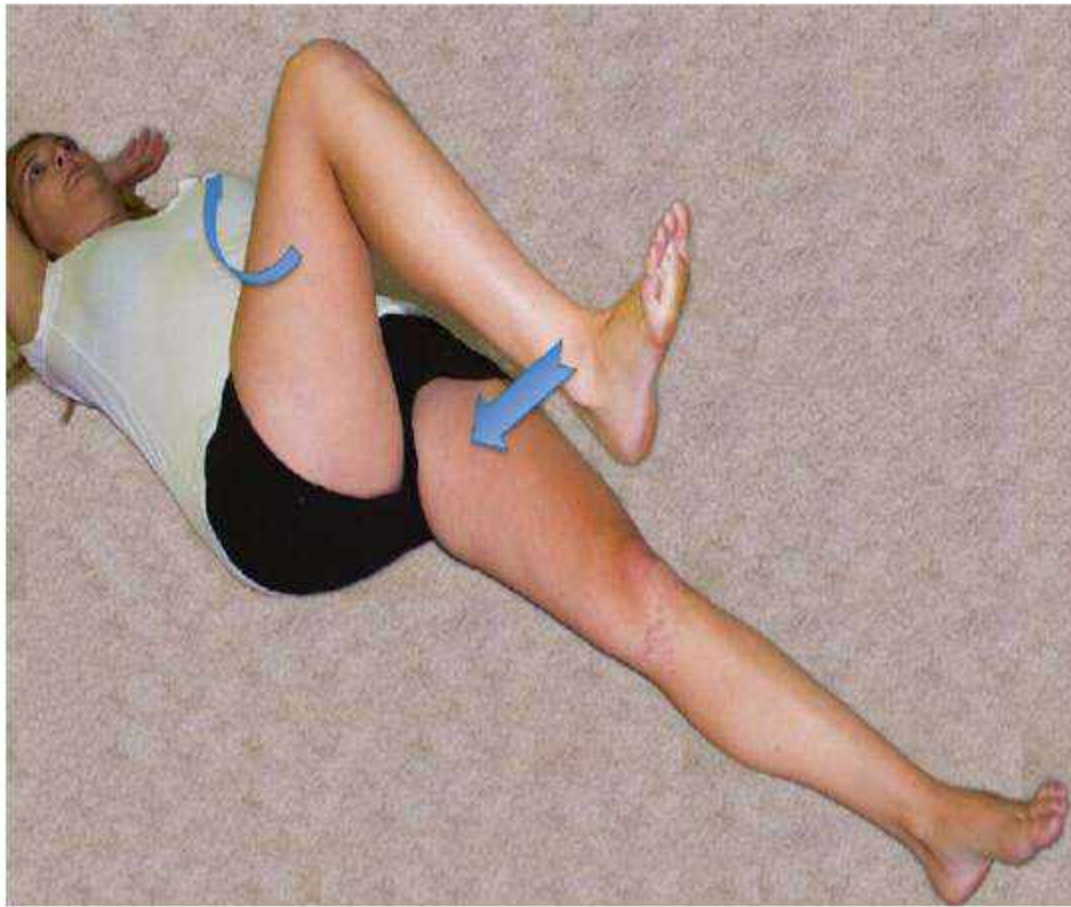




Chest radiograph showing retrosternal goitre with tracheal displacement

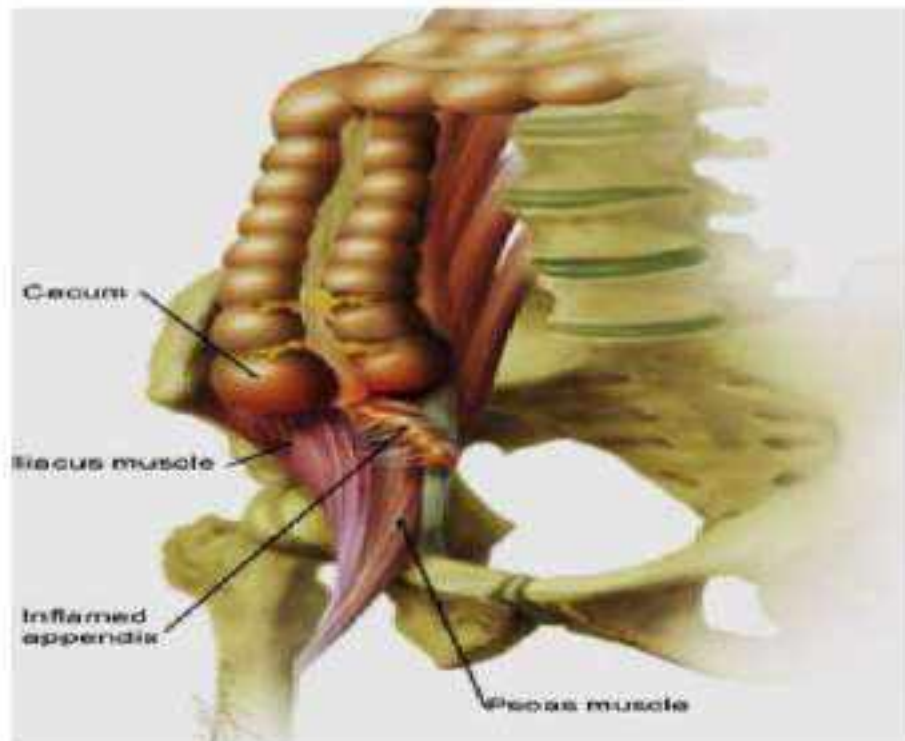
Obturator's Sign

Pain on passive internal rotation of flexed thigh .Examiner moves lower leg laterally while applying resistance to the lateral side of knee resulting in internal rotation of femur

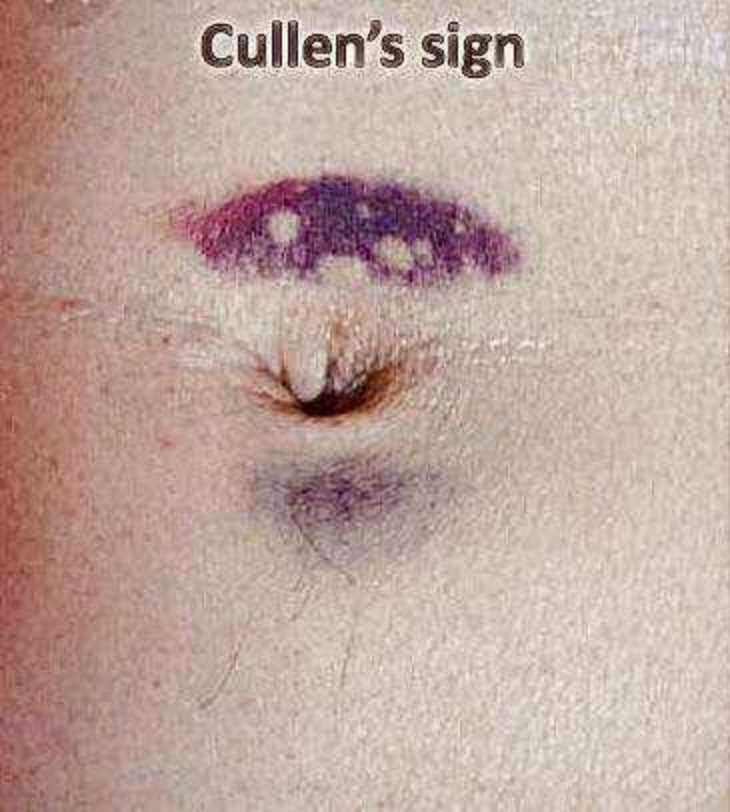


Psoas Sign

Psoas sign is right lower quadrant pain that is produced with patient extending the hip due to inflammation of the peritoneum overlying the psoas muscle and inflammation of psoas muscle themselves. Straightening out the leg cause the pain because it stretches the muscle and flexing the hip into fetal position "relieve the pain "



Cullen's sign

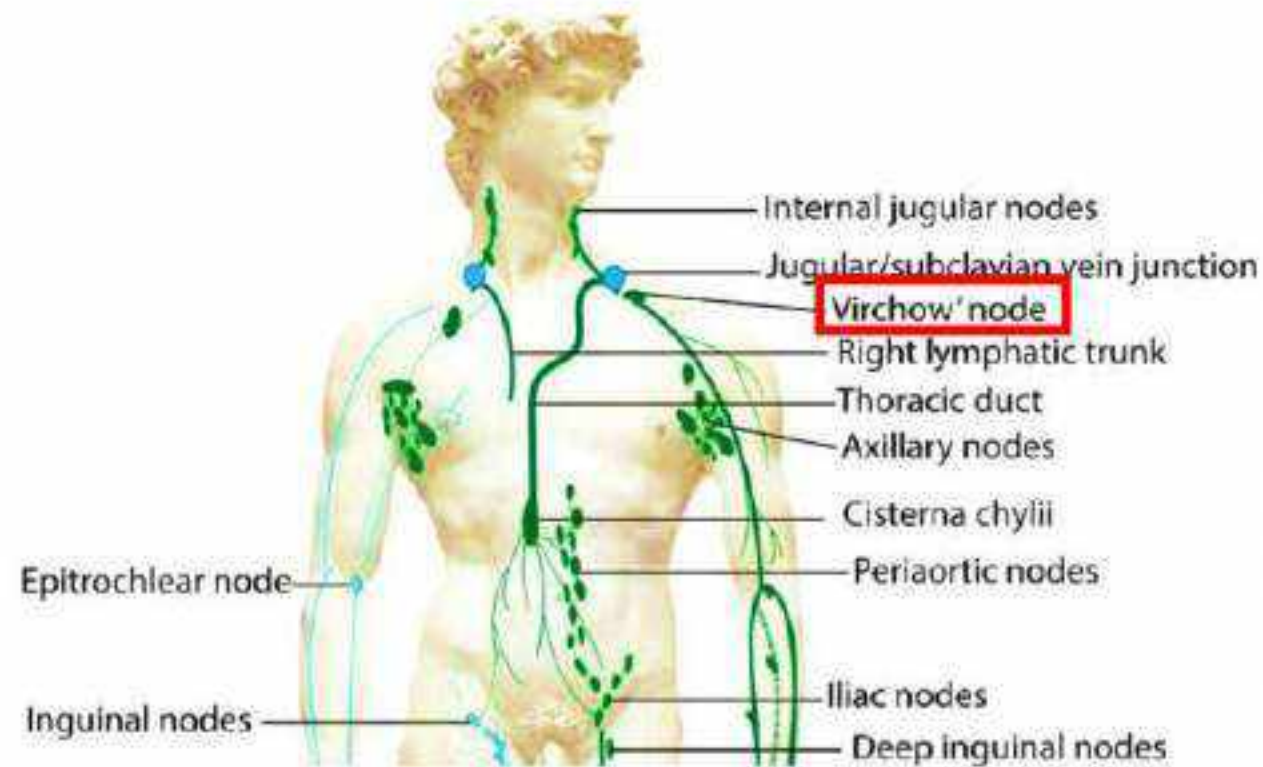


Grey Turner's sign



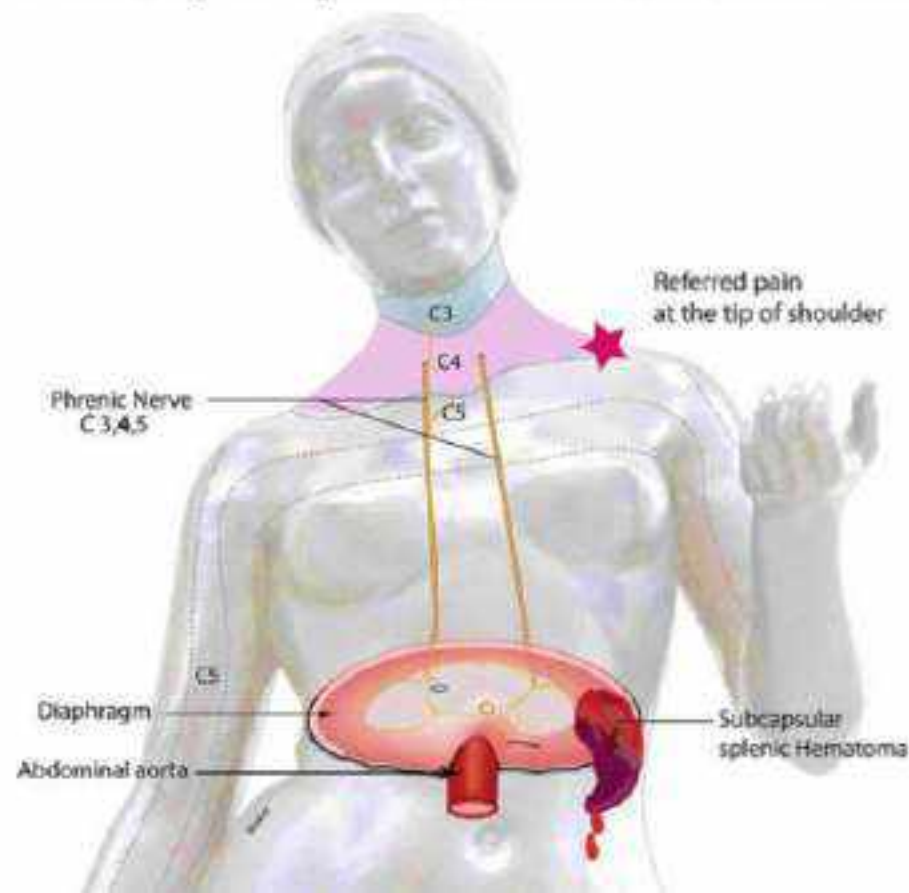
Troisier's sign

Troisier's sign: Identifies enlargement of left supraclavicular lymph node (Virchow's node).
Seen in: Ca stomach, Ca testes, Ca bronchus, Malignancy of any other abdominal organ.

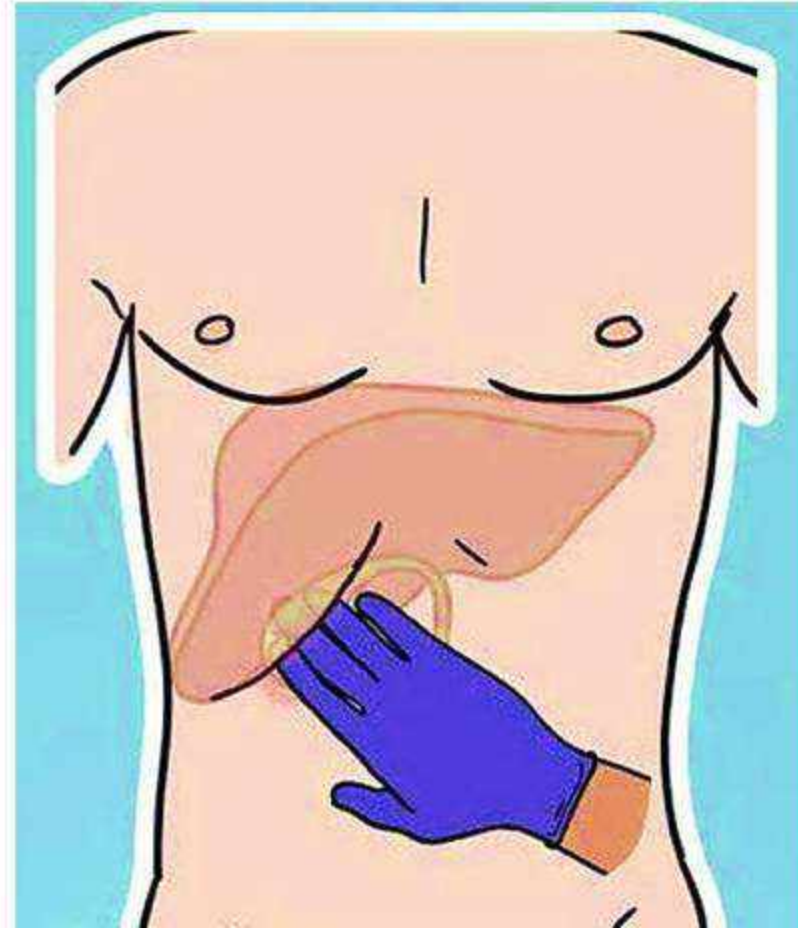
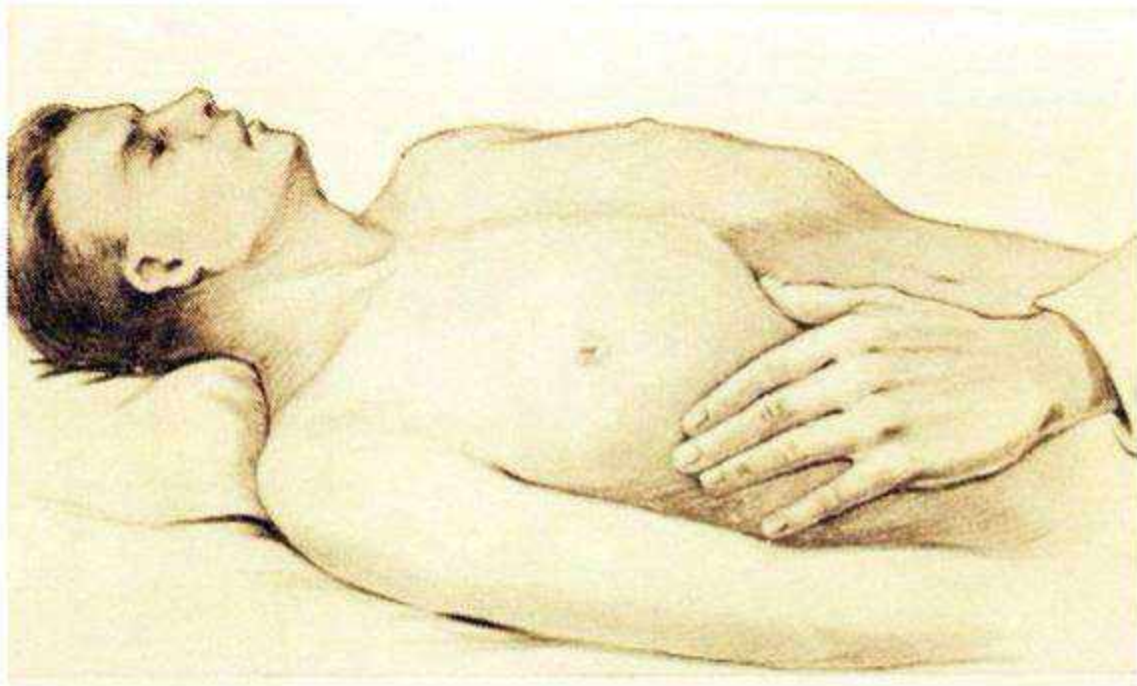


Kehr sign: This sign identifies the pain elicited in the left shoulder in patients with suspected **splenic rupture**. The pain (referred pain) experienced by the patient is due to blood in the peritoneal cavity irritating the diaphragm.

Kehr's sign



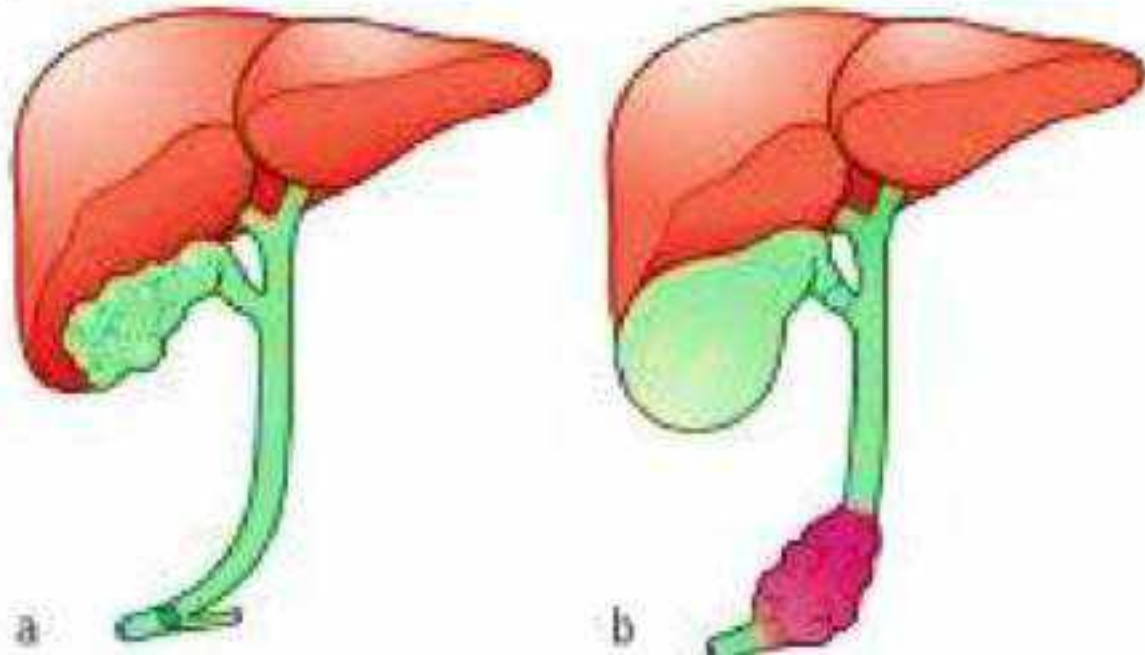
Murphy's sign : This clinical sign is classically described in patients suffering from **cholecystitis**. It is elicited by asking the patient to breath deeply while exerting moderate pressure with the left hand such that thumb lies over the fundus of the gallbladder. The patient catches his breath as the inflamed gallbladder which is pushed down by the diaphragm gets imposed against the thumb.

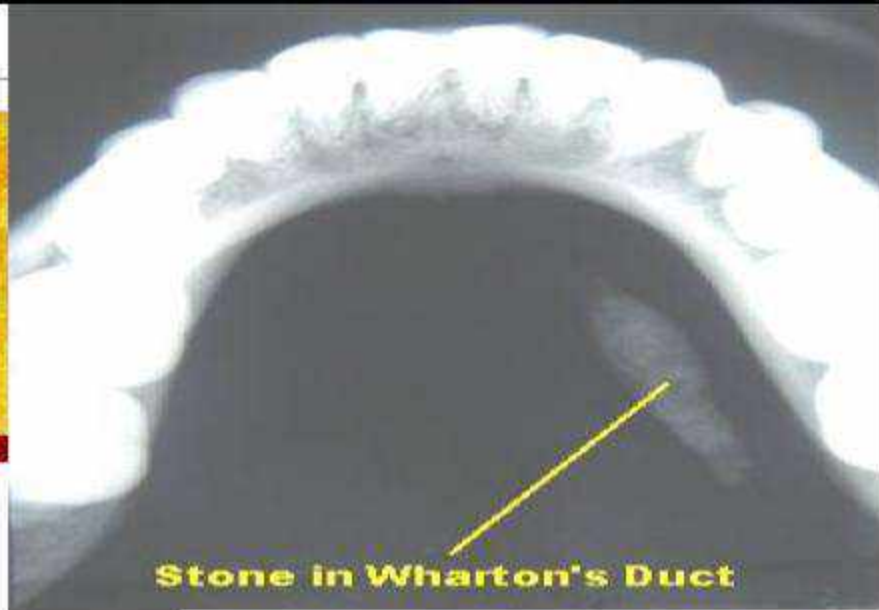


Courvoisier's sign

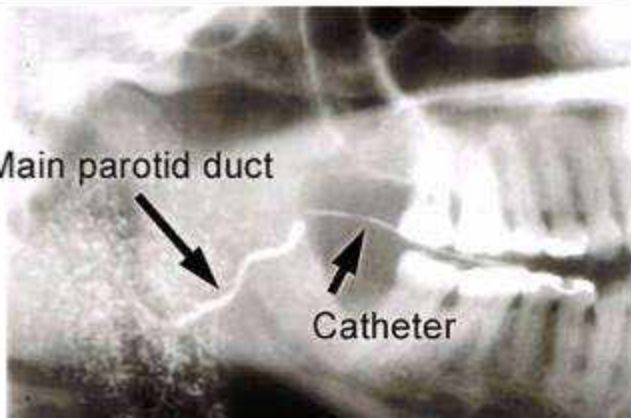
Courvoisier's sign: In a patient with obstructive jaundice, if the gallbladder is palpable it is not due to gallstones.

The rule





Main parotid duct



Catheter

Sialadenitis

Acute infection







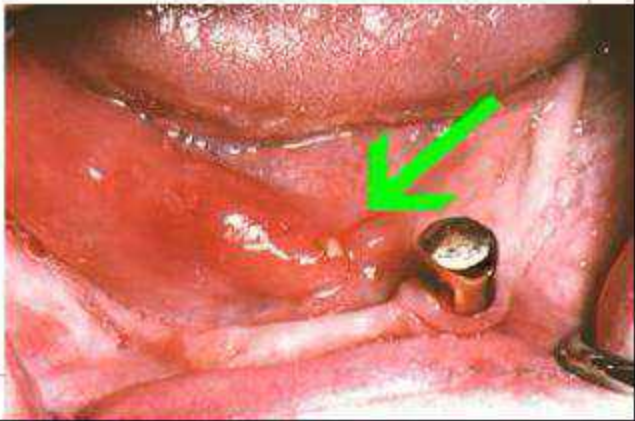
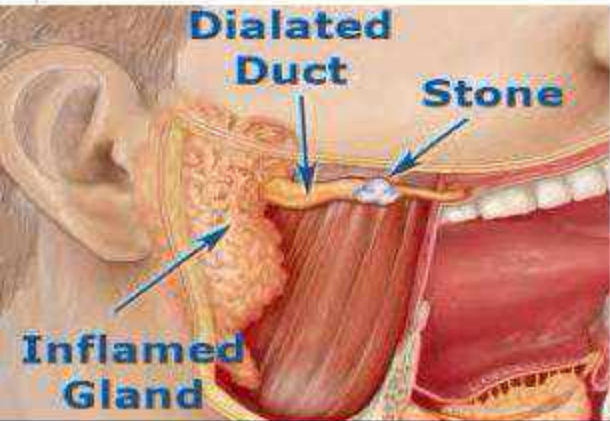


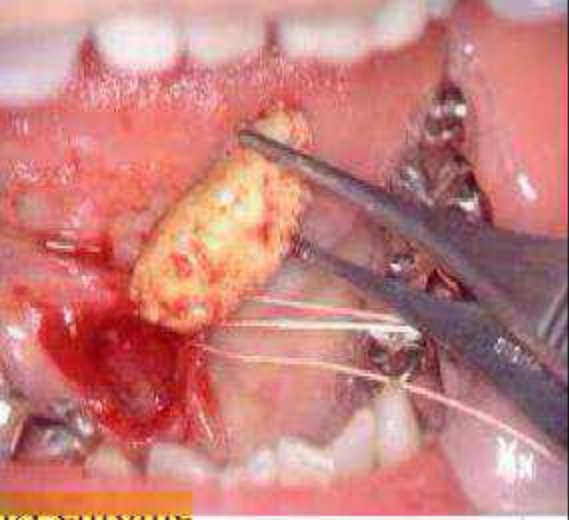






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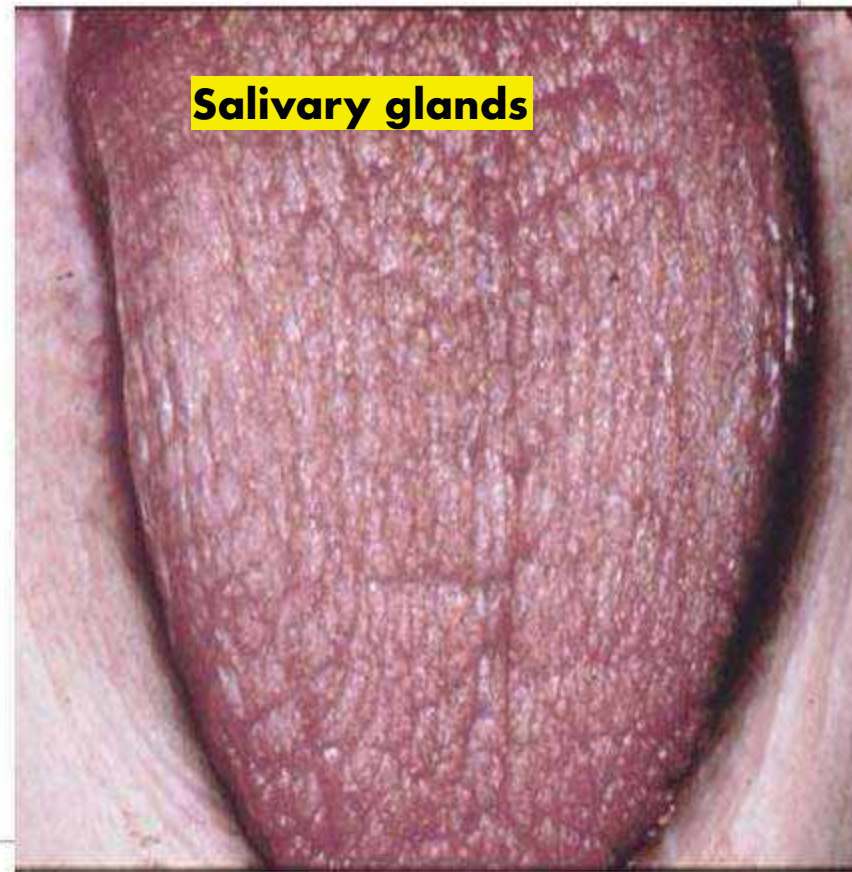
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Sjogren Syndrome

- **Autoimmune** condition causing progressive degeneration of **salivary** and **lacrimal glands**
- connective tissue disorder, such as **rheumatoid arthritis**

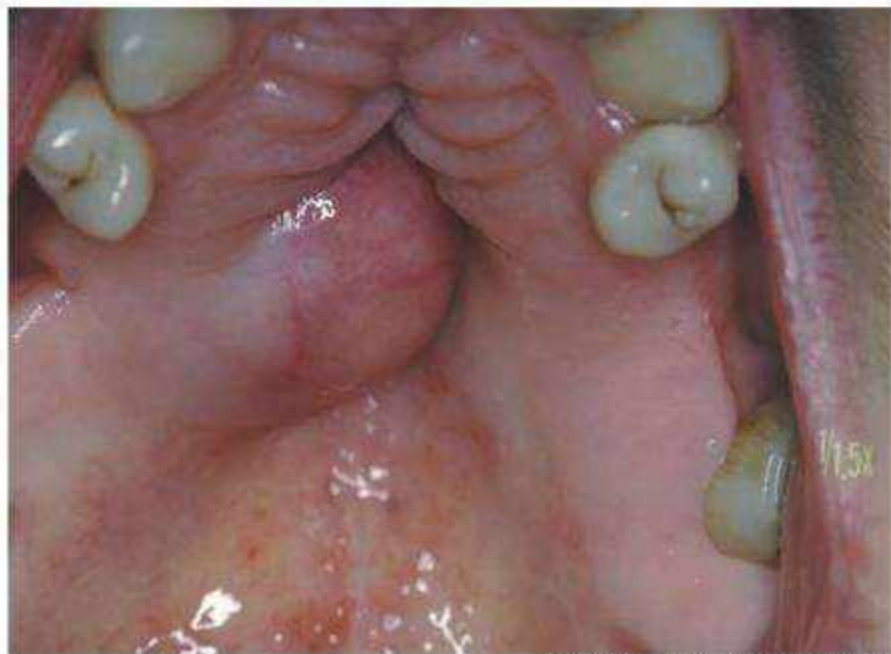


Clinical picture

- Mostly affects the parotid gland
- Persistent / intermittent gland **enlargem.**
- Bilateral, non-tender, firm, and diffuse swelling
- ↓ saliva and altered saliva composition
اللغاب وتغيير تكوين اللغاب جفاف الفم
xerostomia
- Significantly increased risk of developing **B-cell lymphoma**
- Keratoconjunctivitis sicca







crease

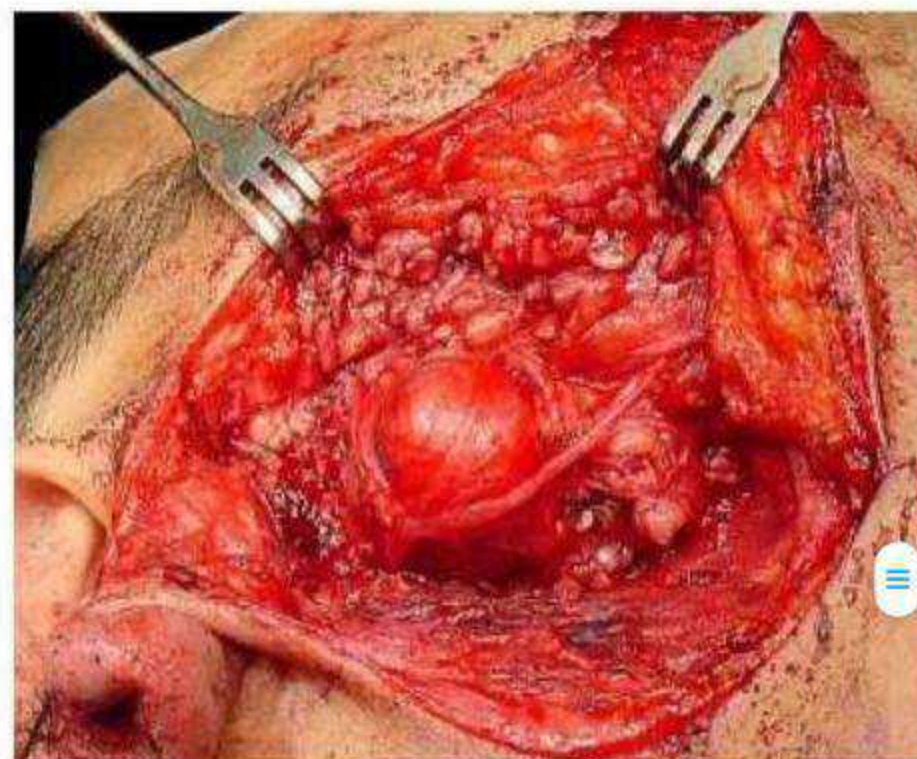
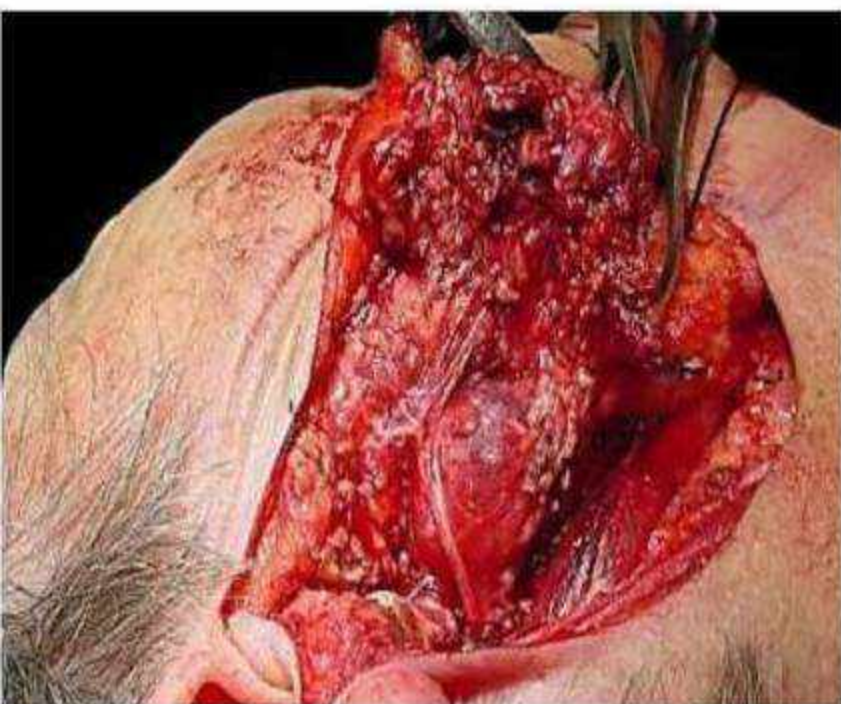
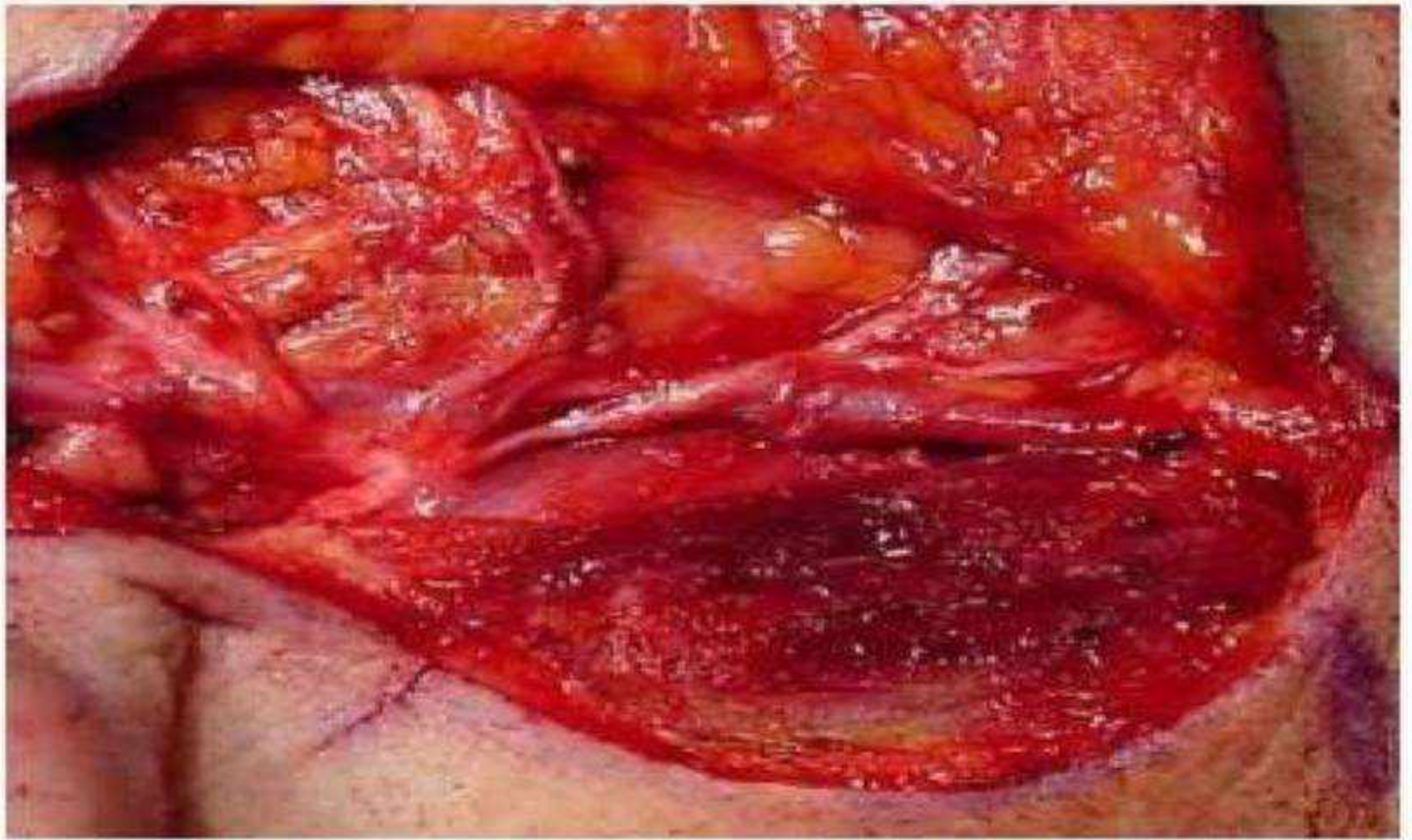


S.



**SALIVARY DUCT
CARCINOMA**

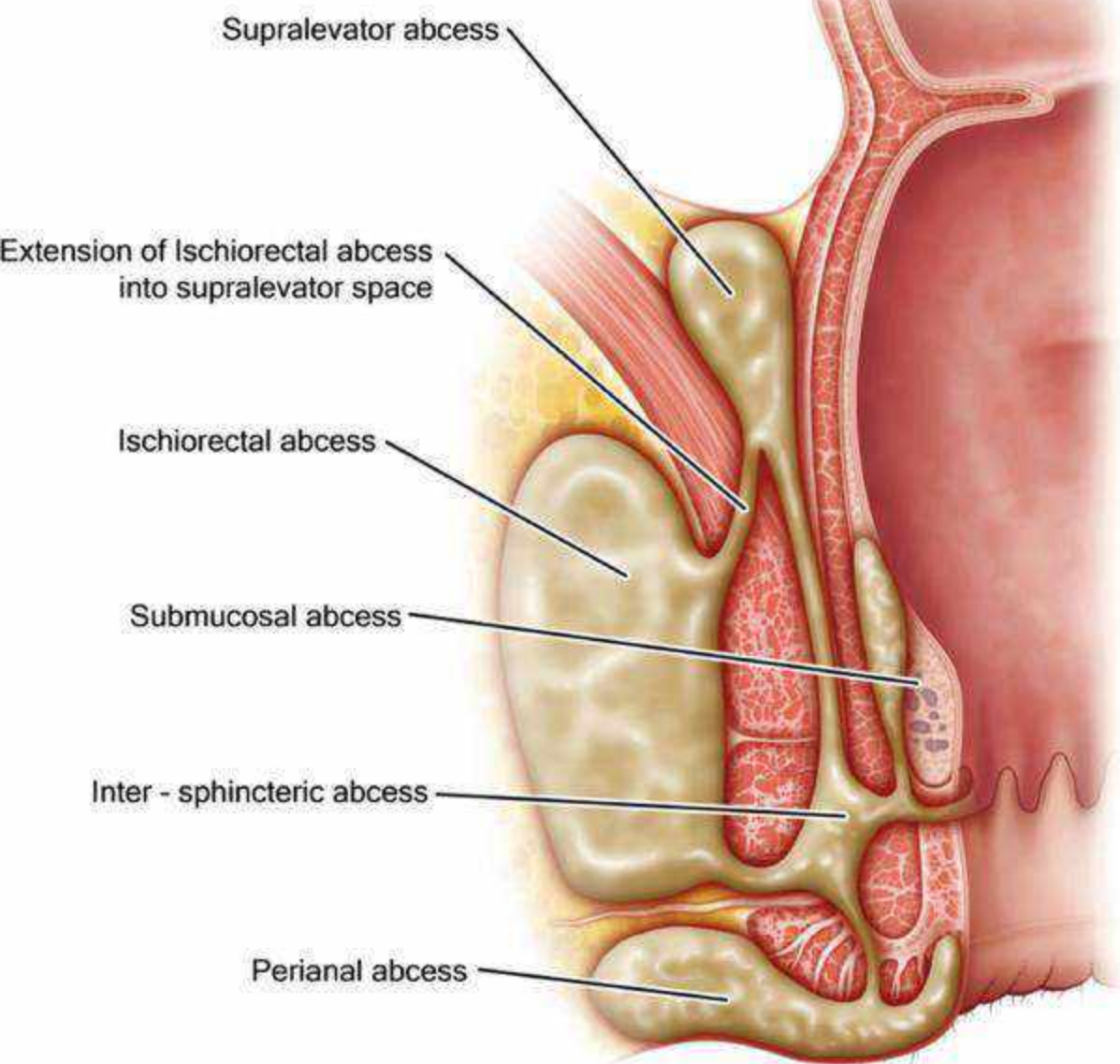




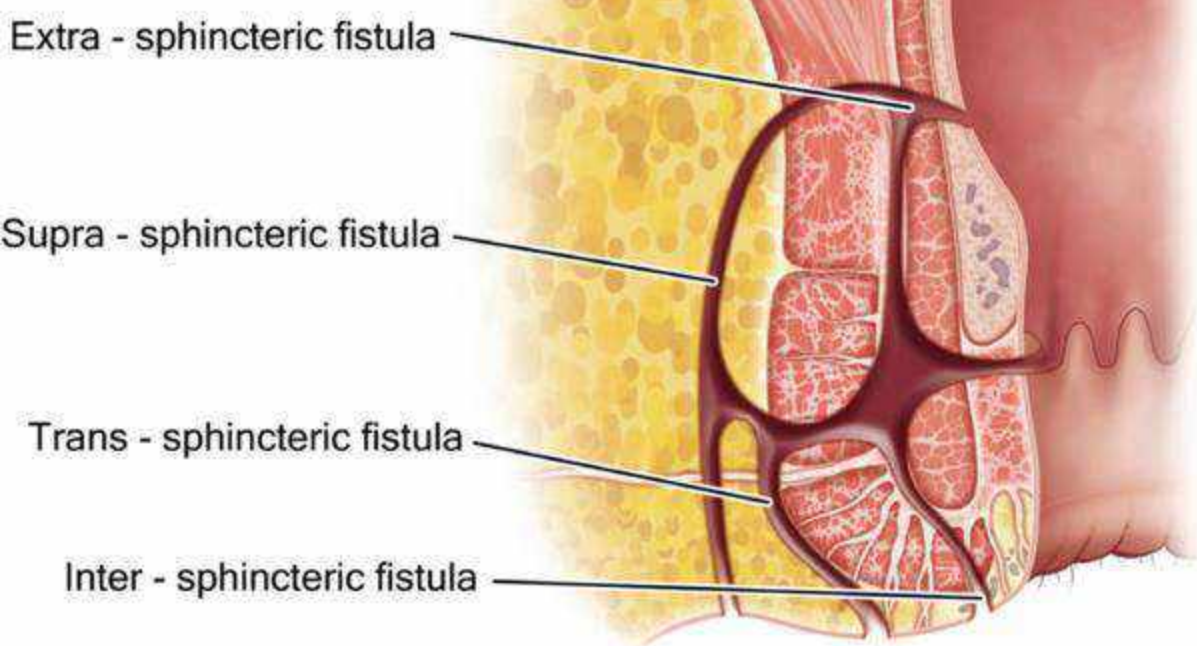
B

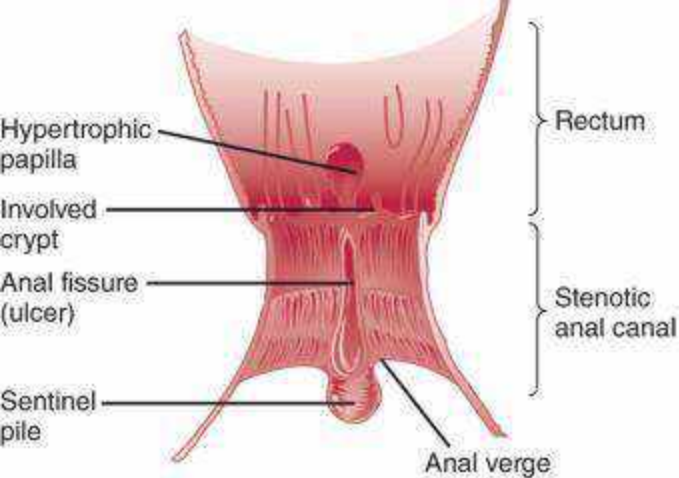


a



b

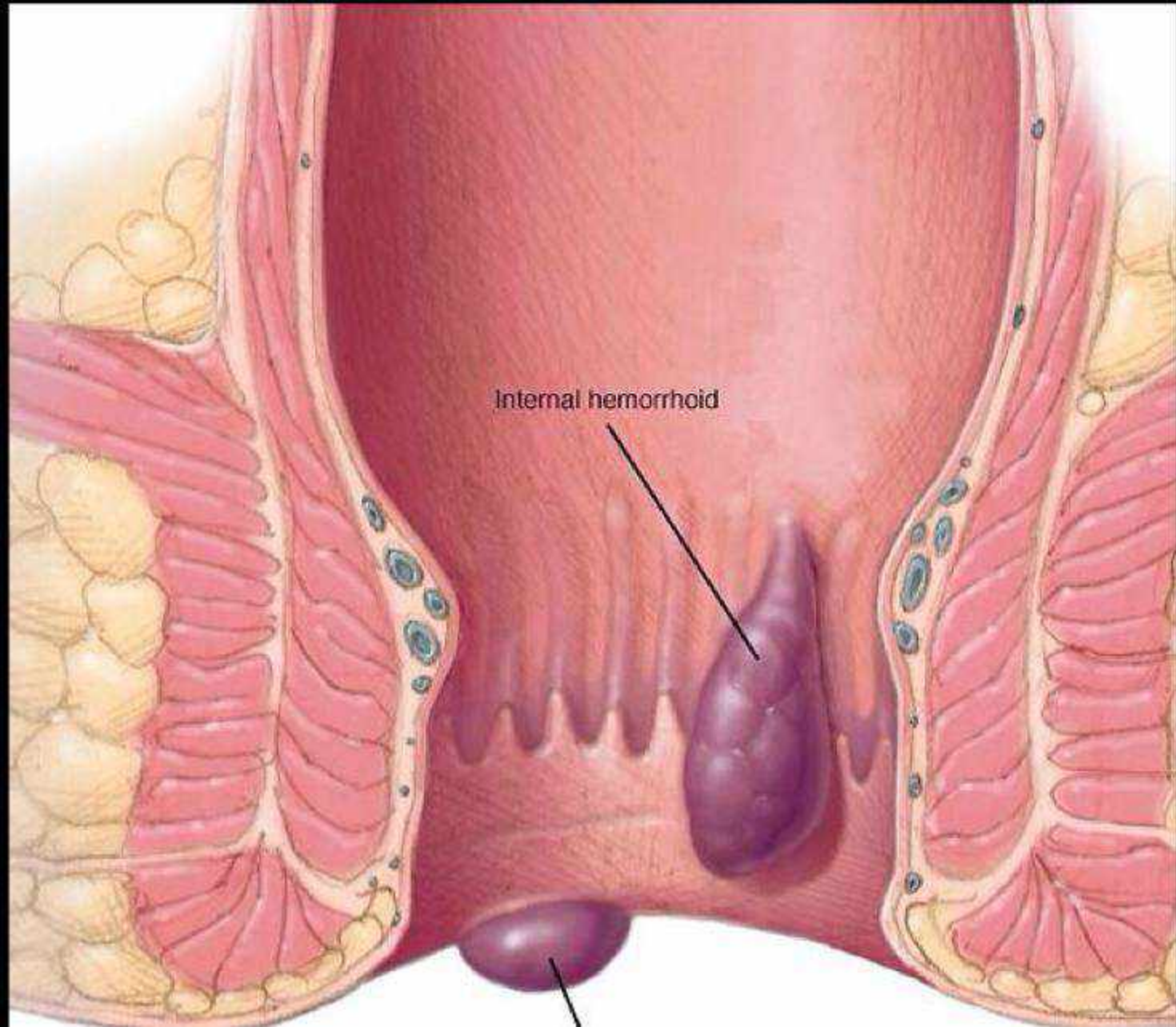




Source: Gerard M. Doherty: Current Diagnosis & Treatment: Surgery, 14th Edition
www.accessmedicine.com

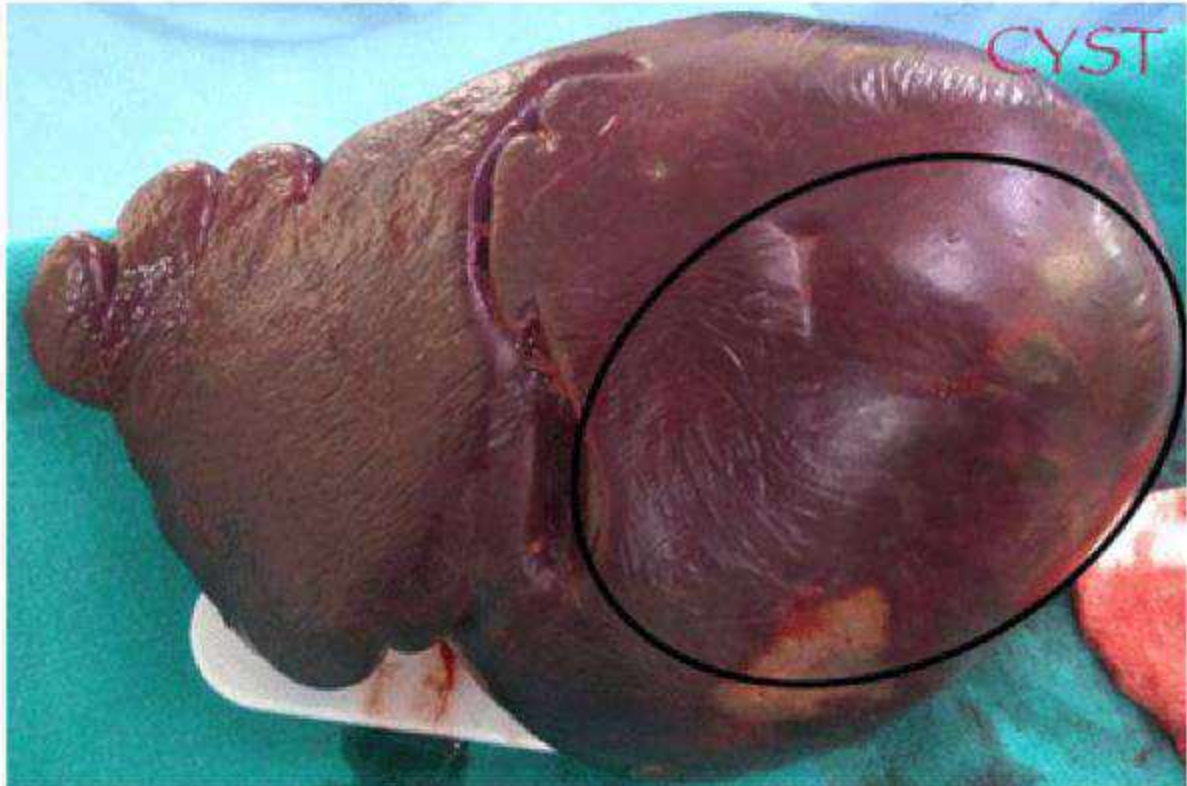
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Internal hemorrhoid

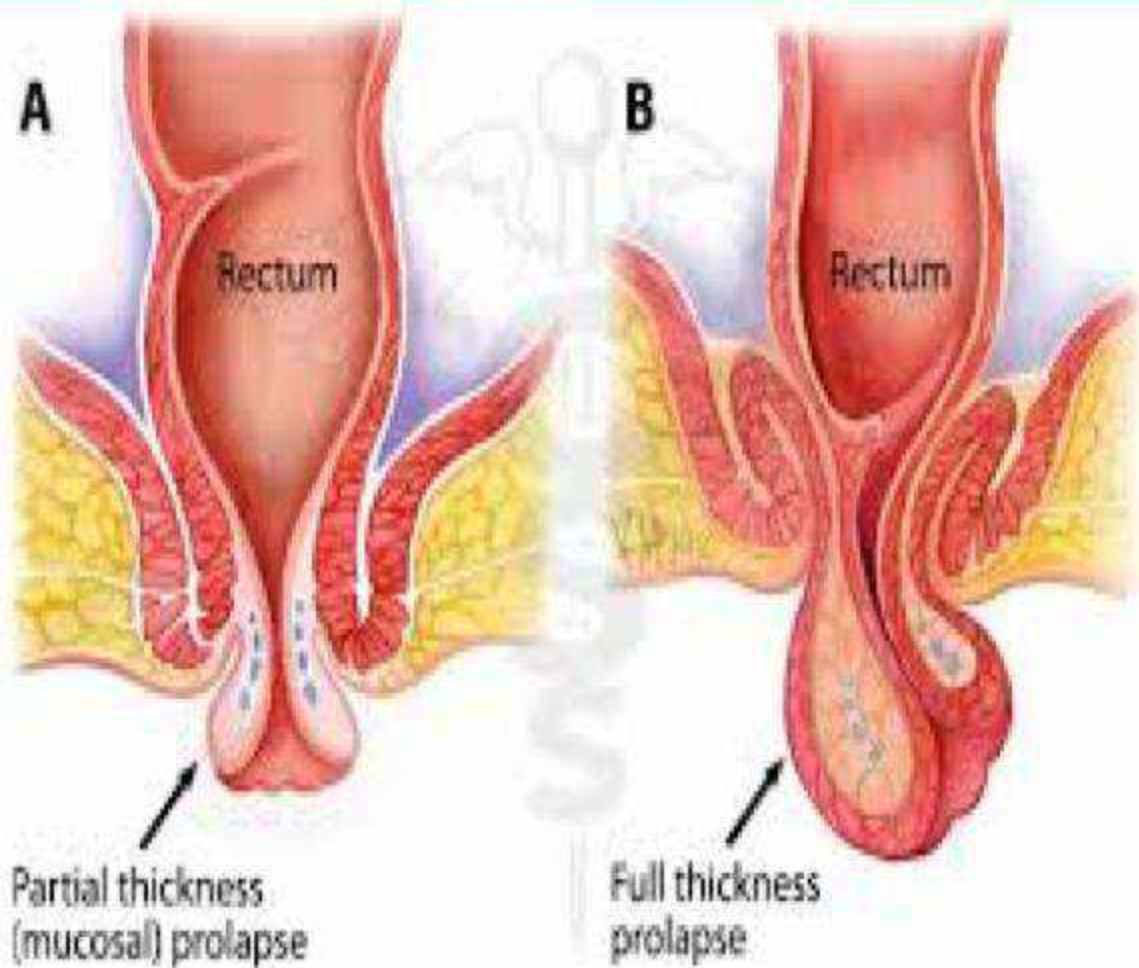




CYST





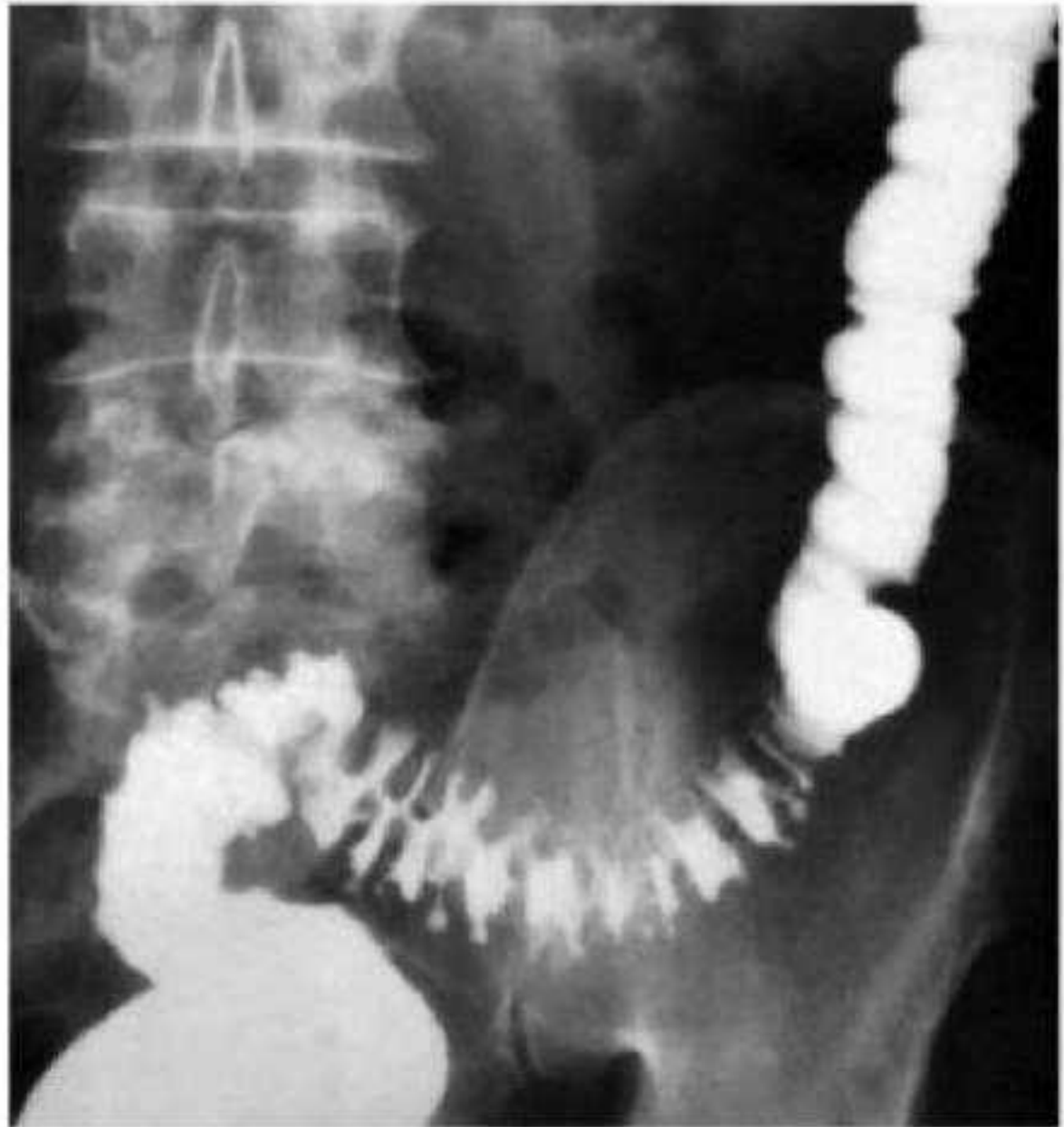


Git

diverticulosis

Diverticulosis

- 90%
- Asymptomatic
- Vague complain-
 - Discomfort
 - Fullness
 - Bloating
 - flatulance
- x ray- Saw tooth appearance



Diverticula

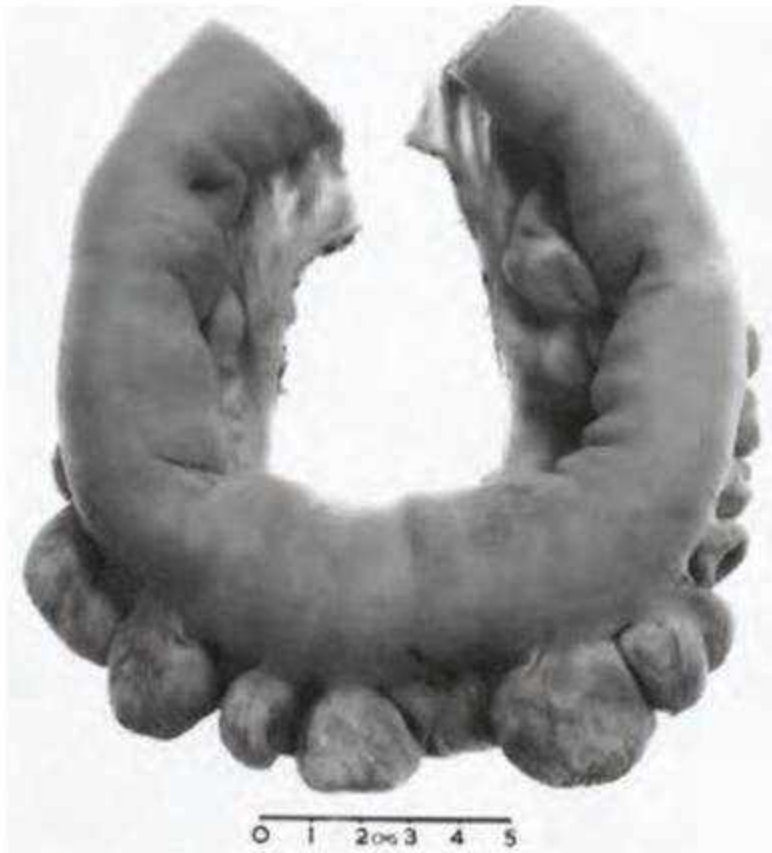


Figure 69.10 Jejunal diverticula.

Meckel's

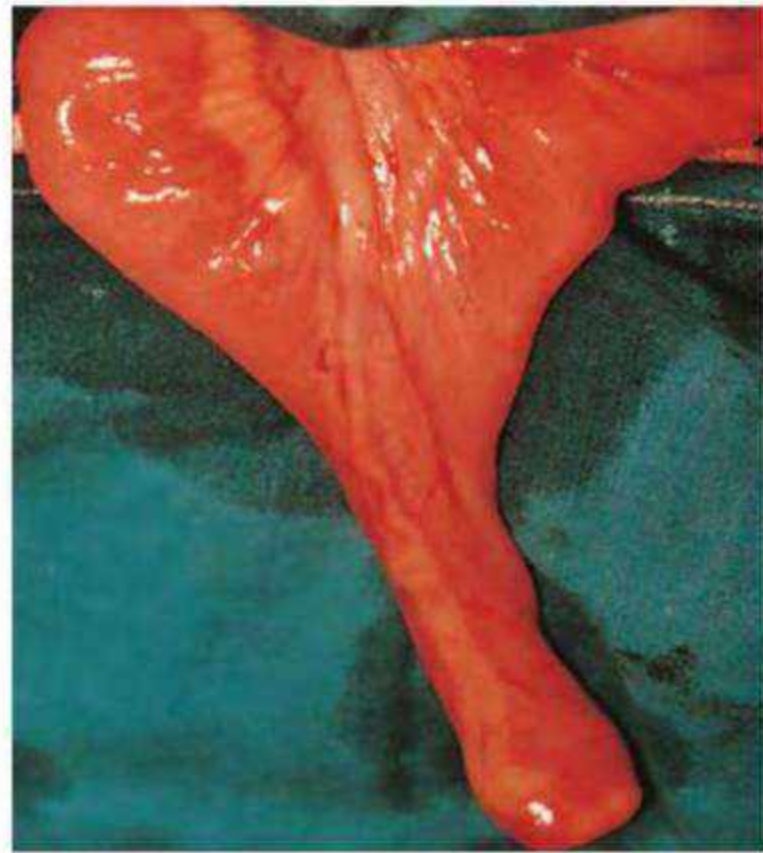


Figure 69.11 Meckel's diverticulum.

Meckel's

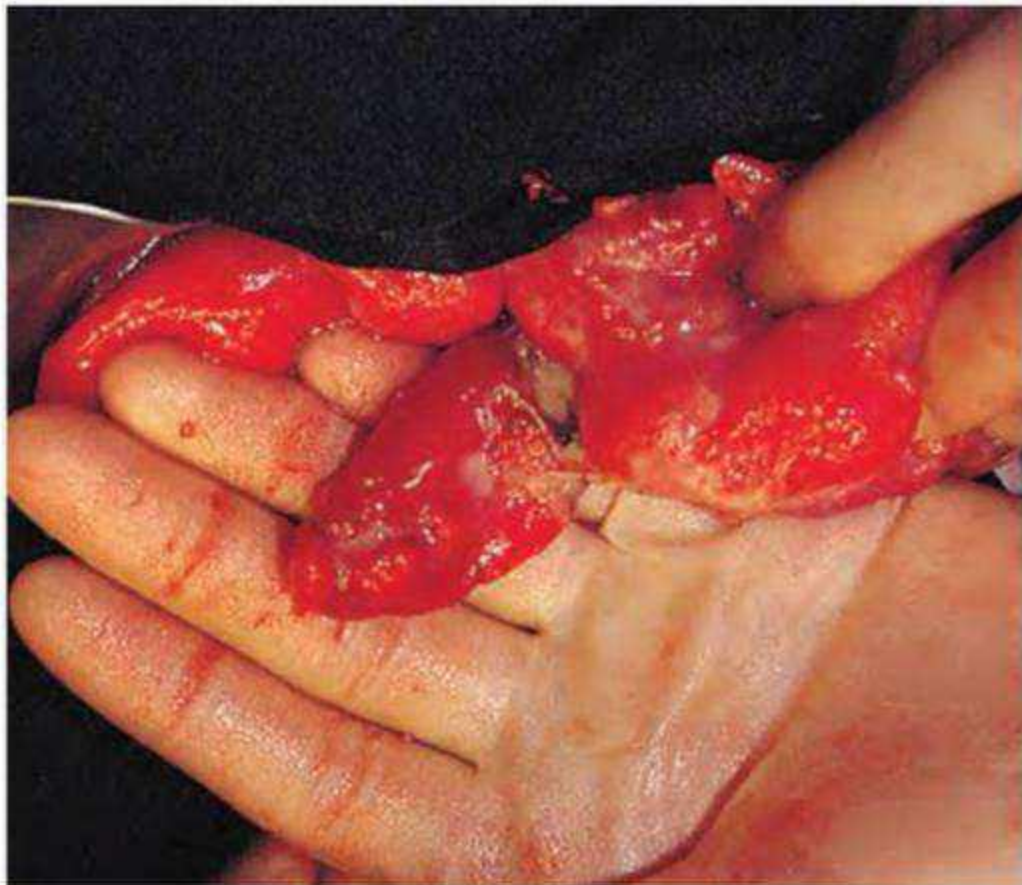
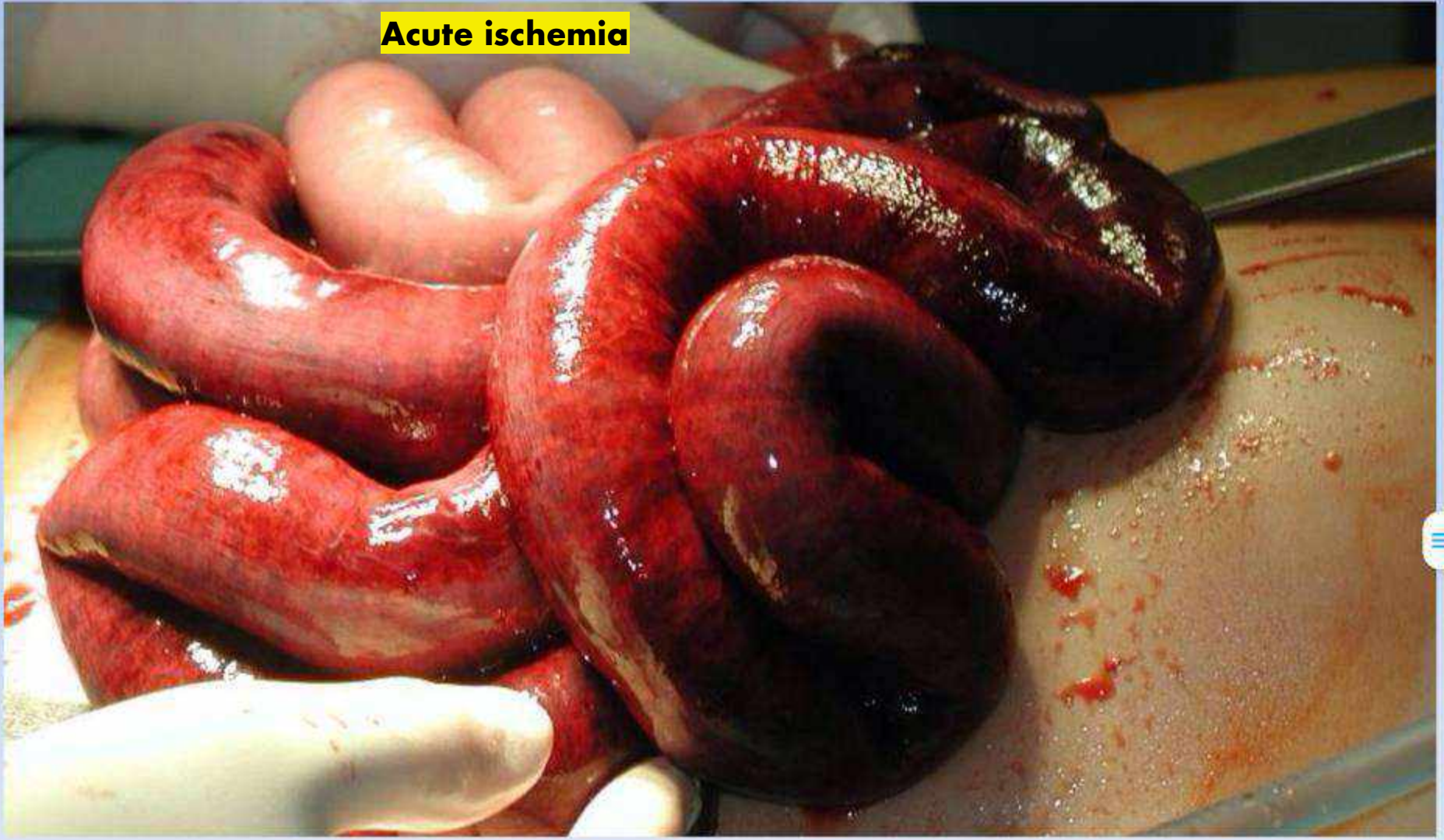


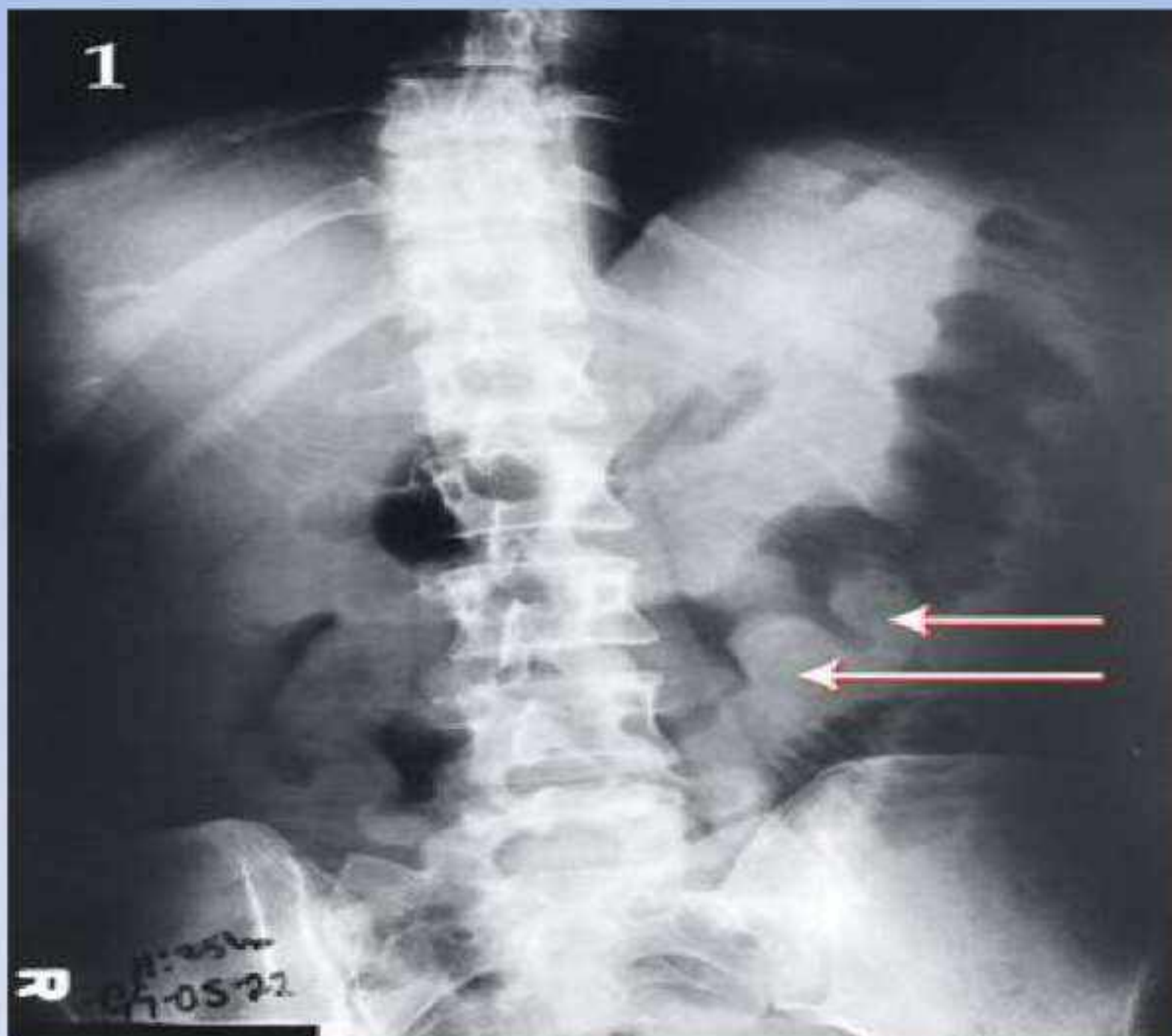
Figure 69.12 Gangrenous Meckel's diverticulitis.

Acute ischemia



Acute ischemia





A colonoscopy image showing the interior of the colon. The mucosal surface is inflamed and covered with numerous small, white, ulcer-like lesions. Several large, rounded, reddish polypoid lesions, known as pseudopolyps, are visible. These are not true neoplasms but are formed by regenerating mucosal tissue. The overall appearance is characteristic of severe ulcerative colitis.

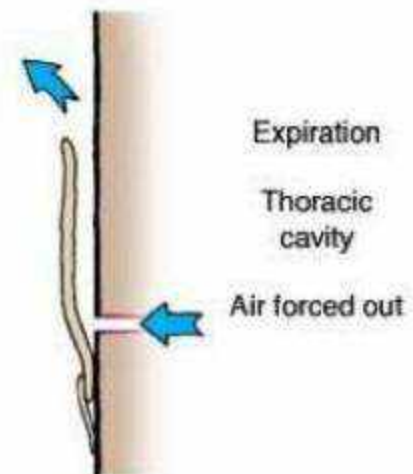
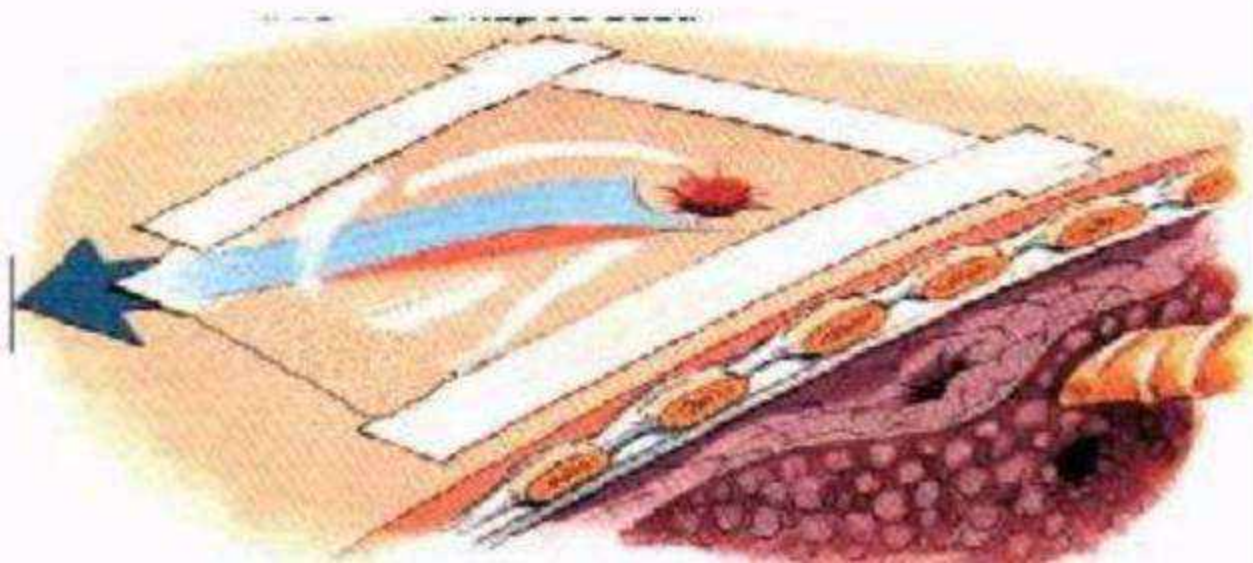
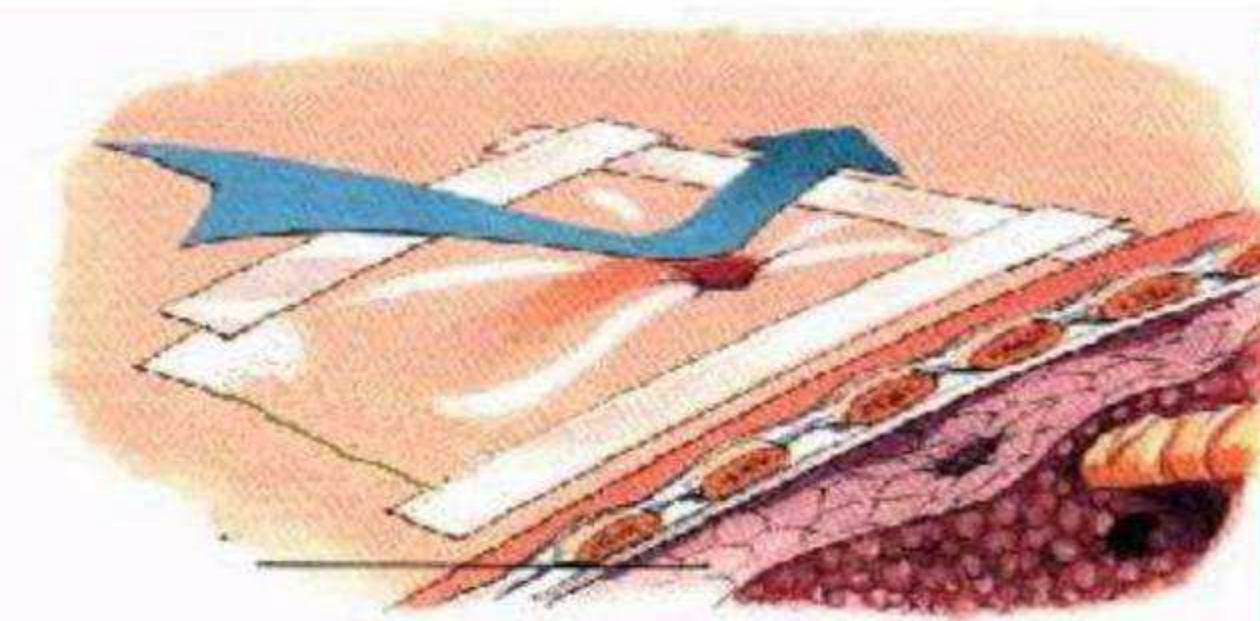
Pseudopolyp

**Pseudo-polyp ulcerative
colitis**



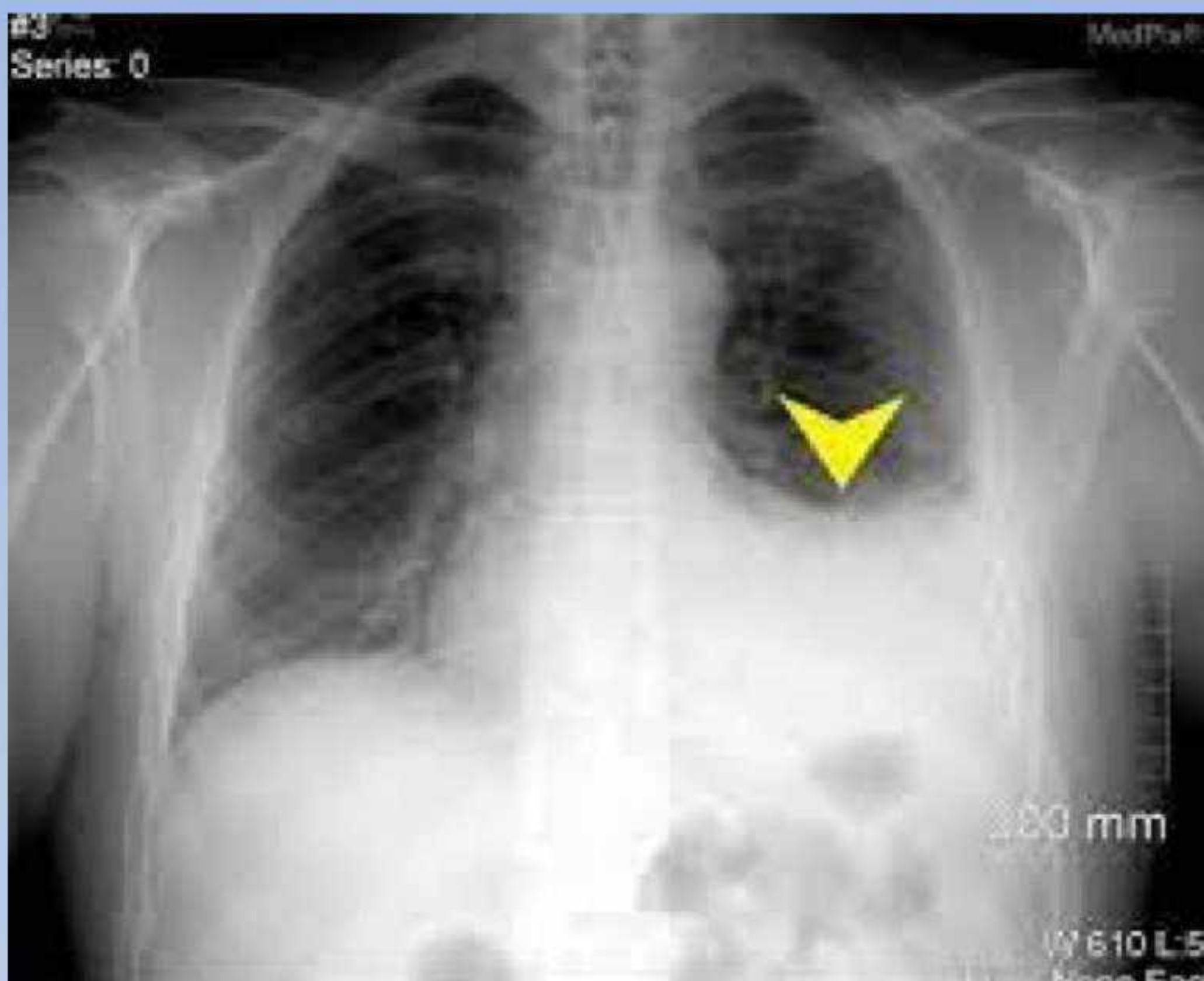


OCCLUSIVE DRESSING



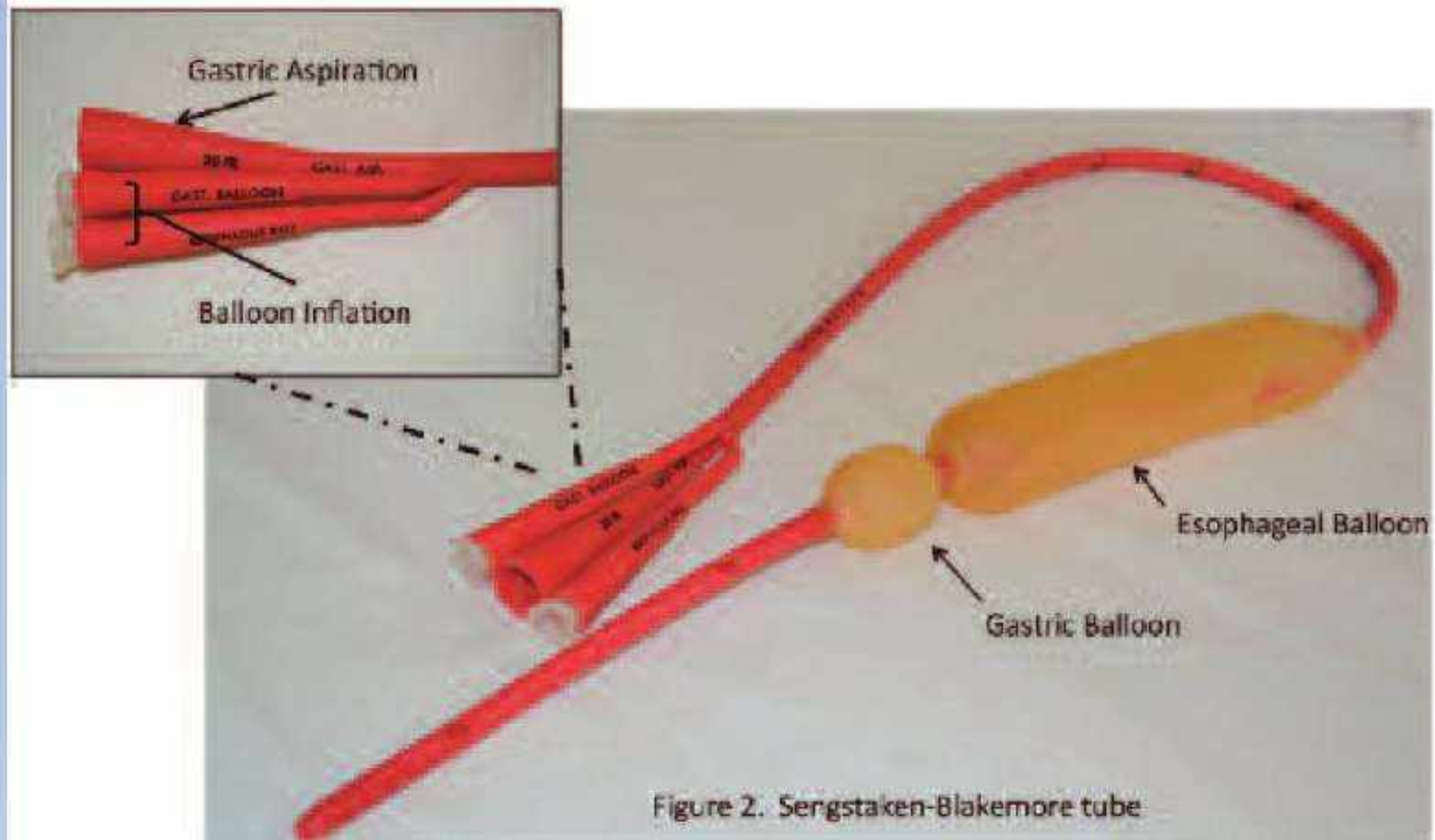
#3
Series: 0

MedPa



20 mm

W 610 L 5
Haga En



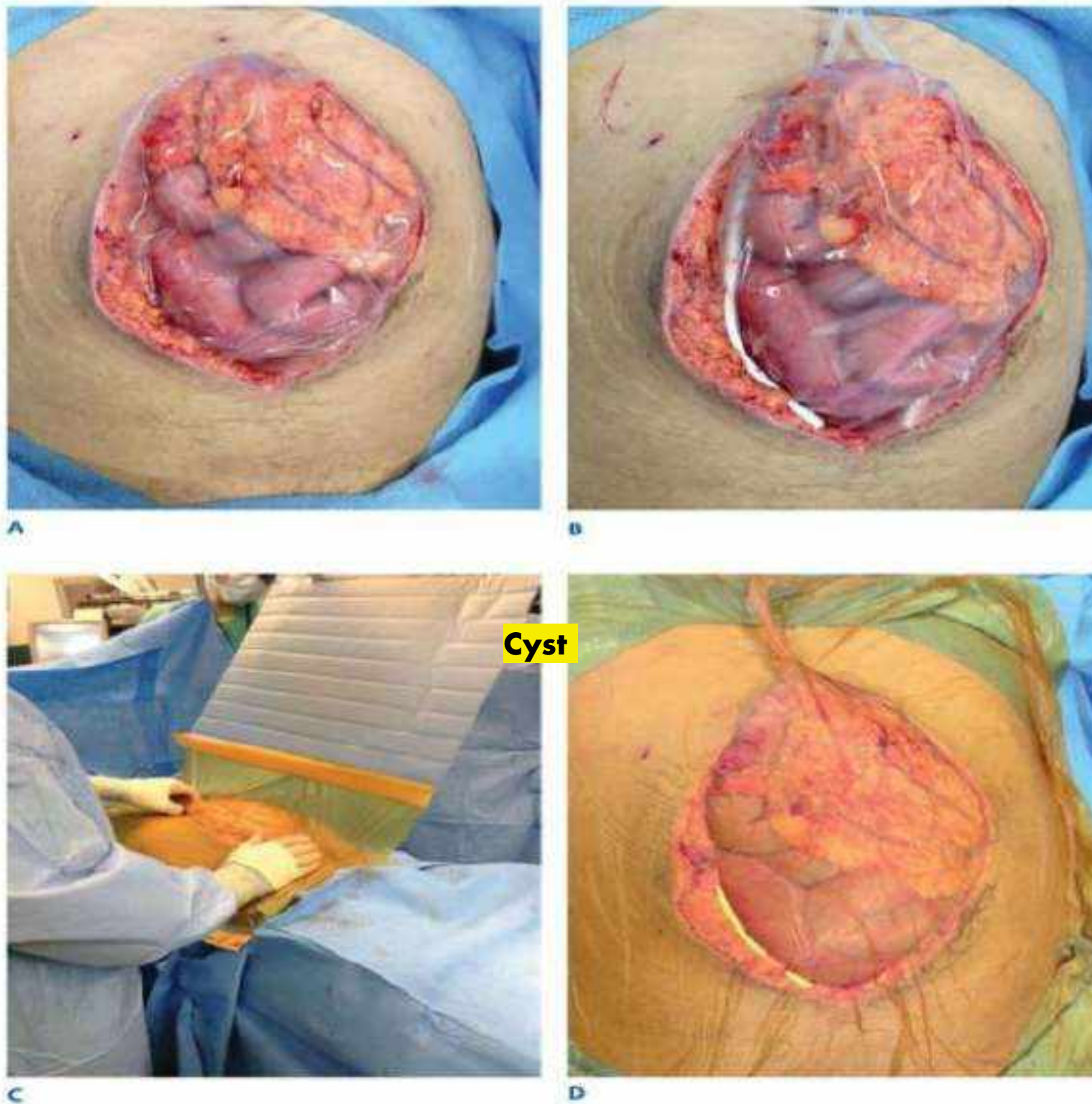
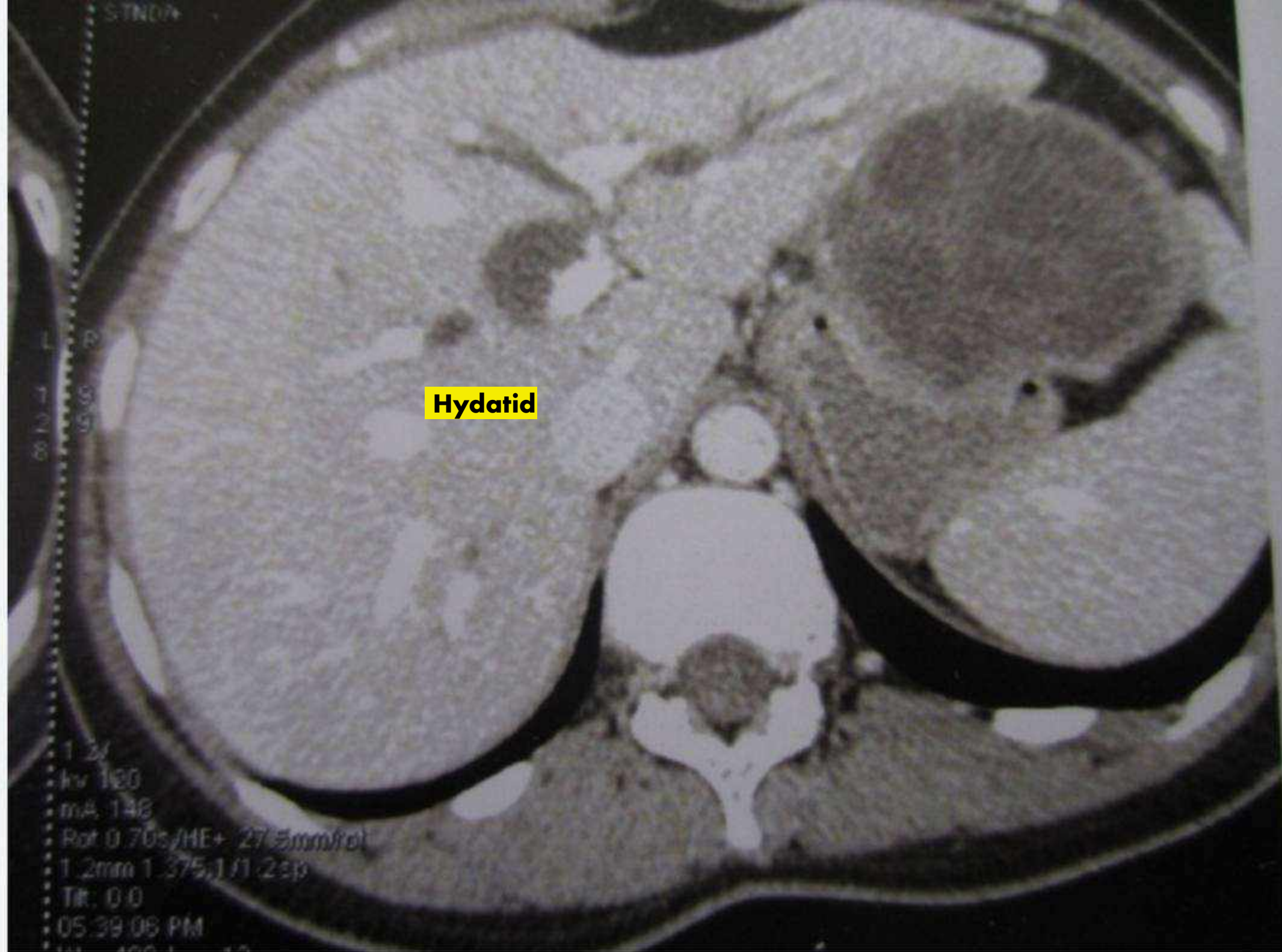
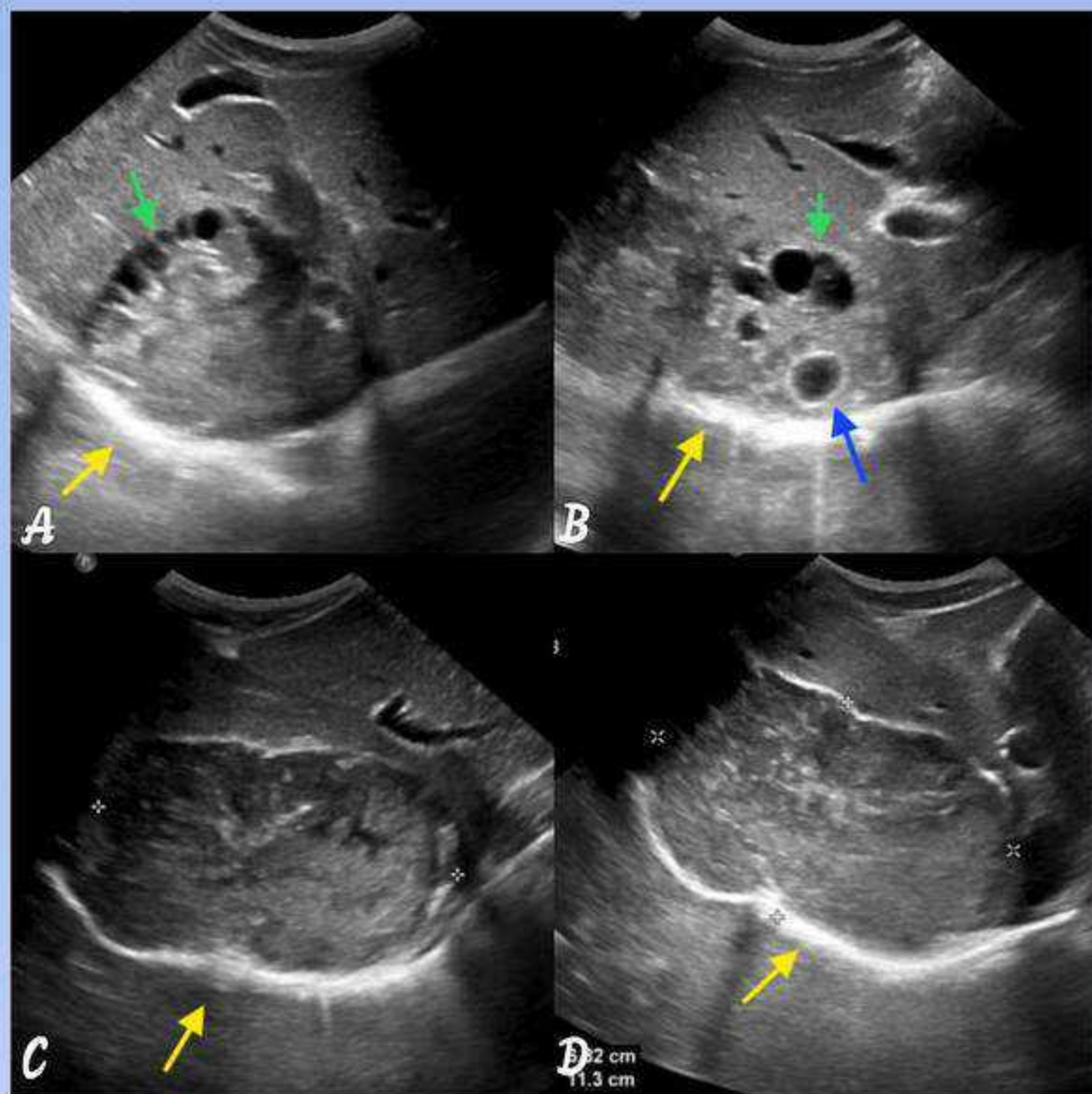
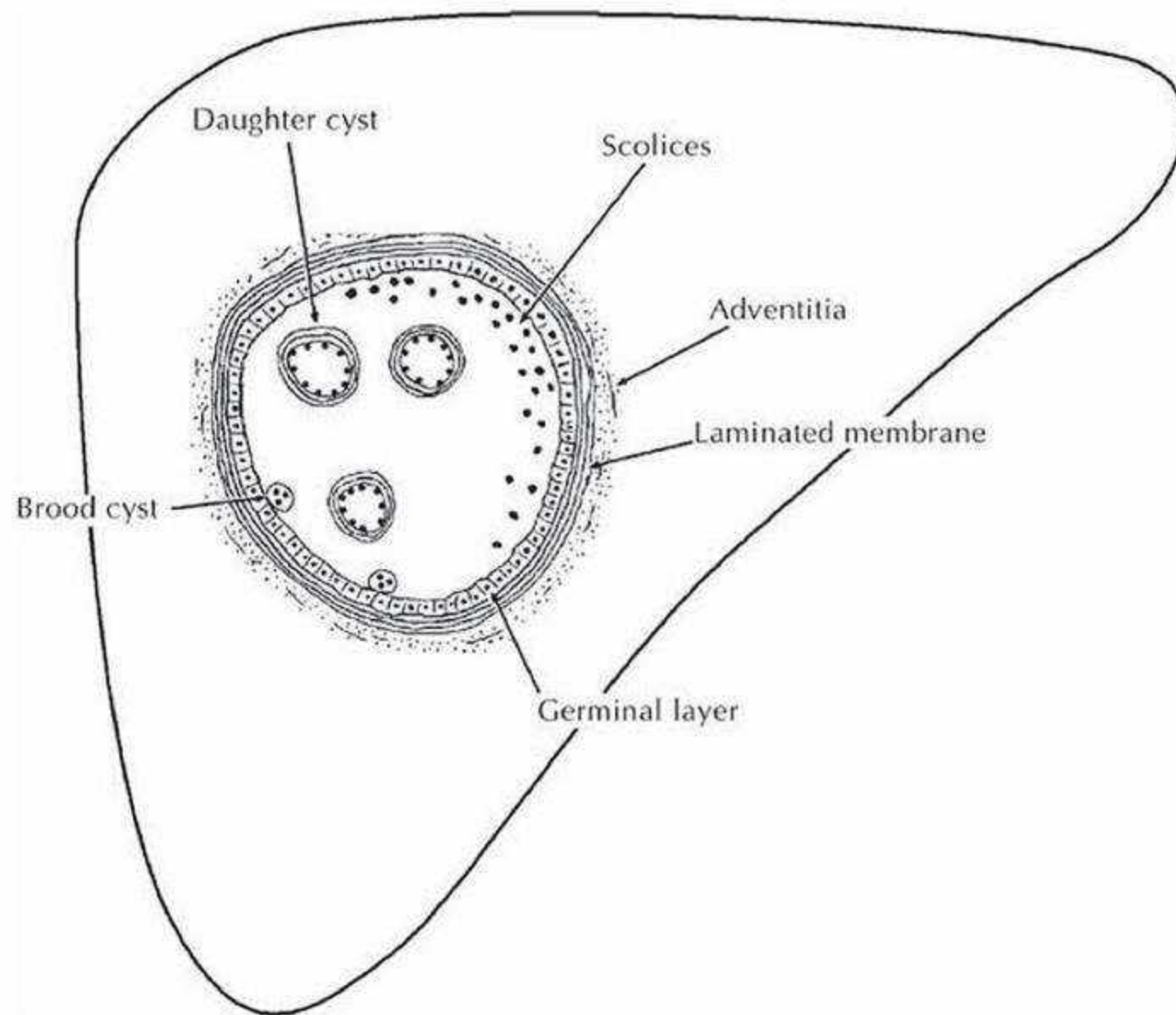


Figure 7-50. Temporary closure of the abdomen entails covering the bowel with a fenestrated subfascial 45 x 60 cm sterile drape (A), placing Jackson-Pratt drains along the fascial edge (B), and then occluding with an Ioban drape (C, D).







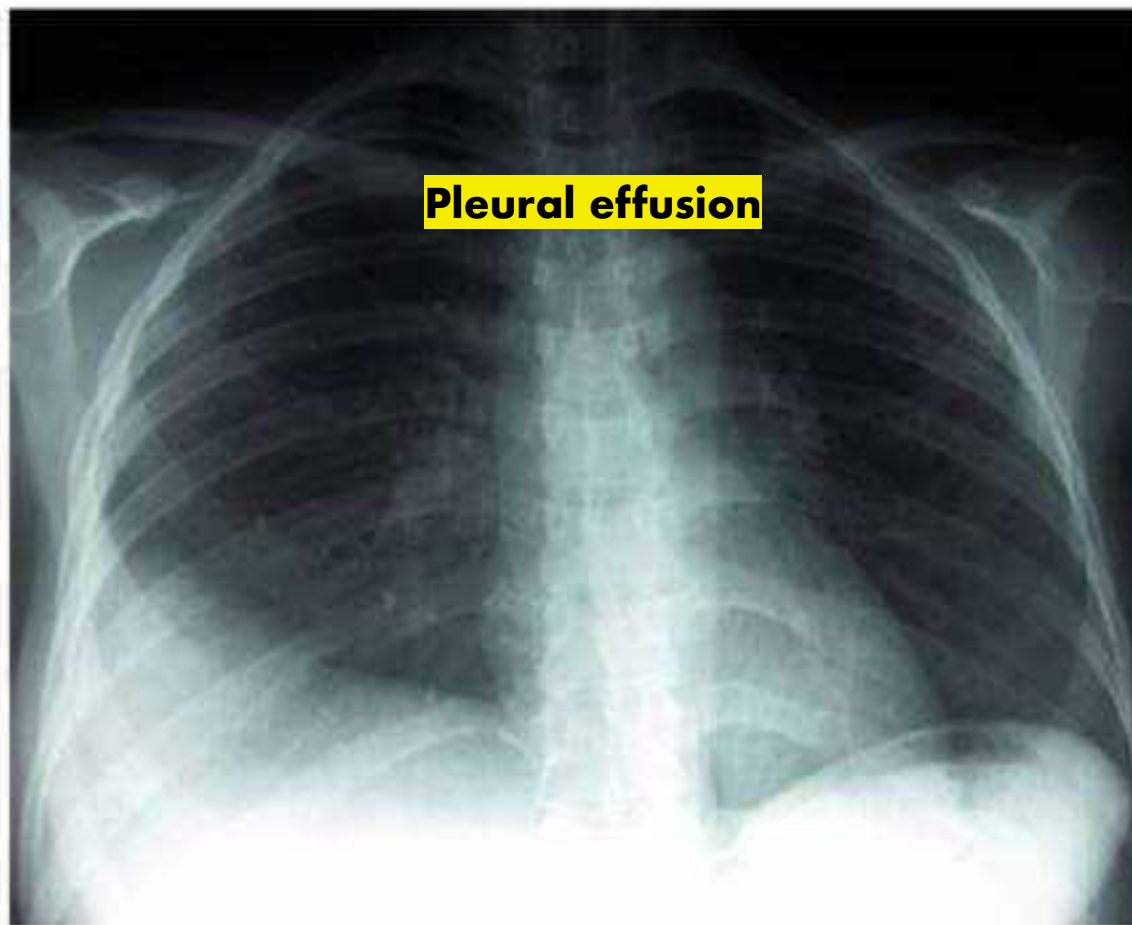


Figure 6. Chest radiograph showing a right pleural effusion with atelectasis

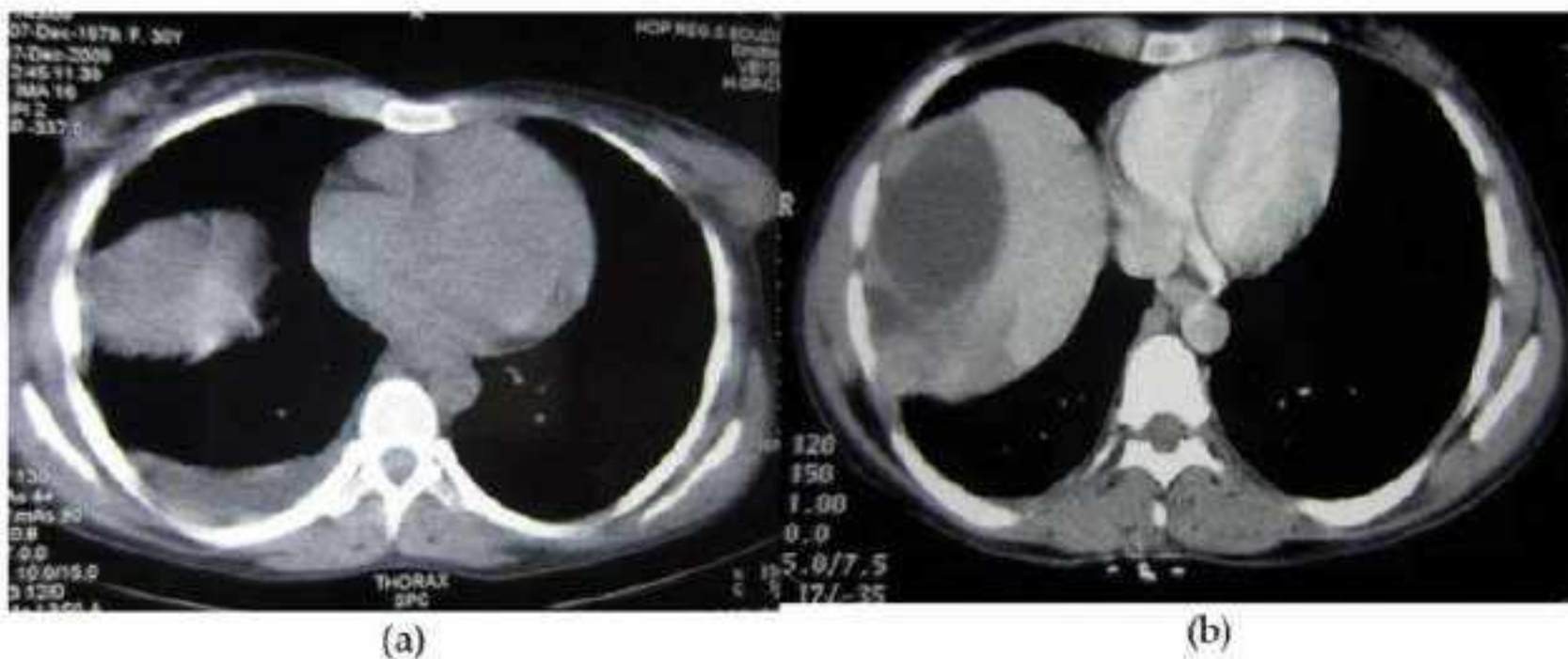
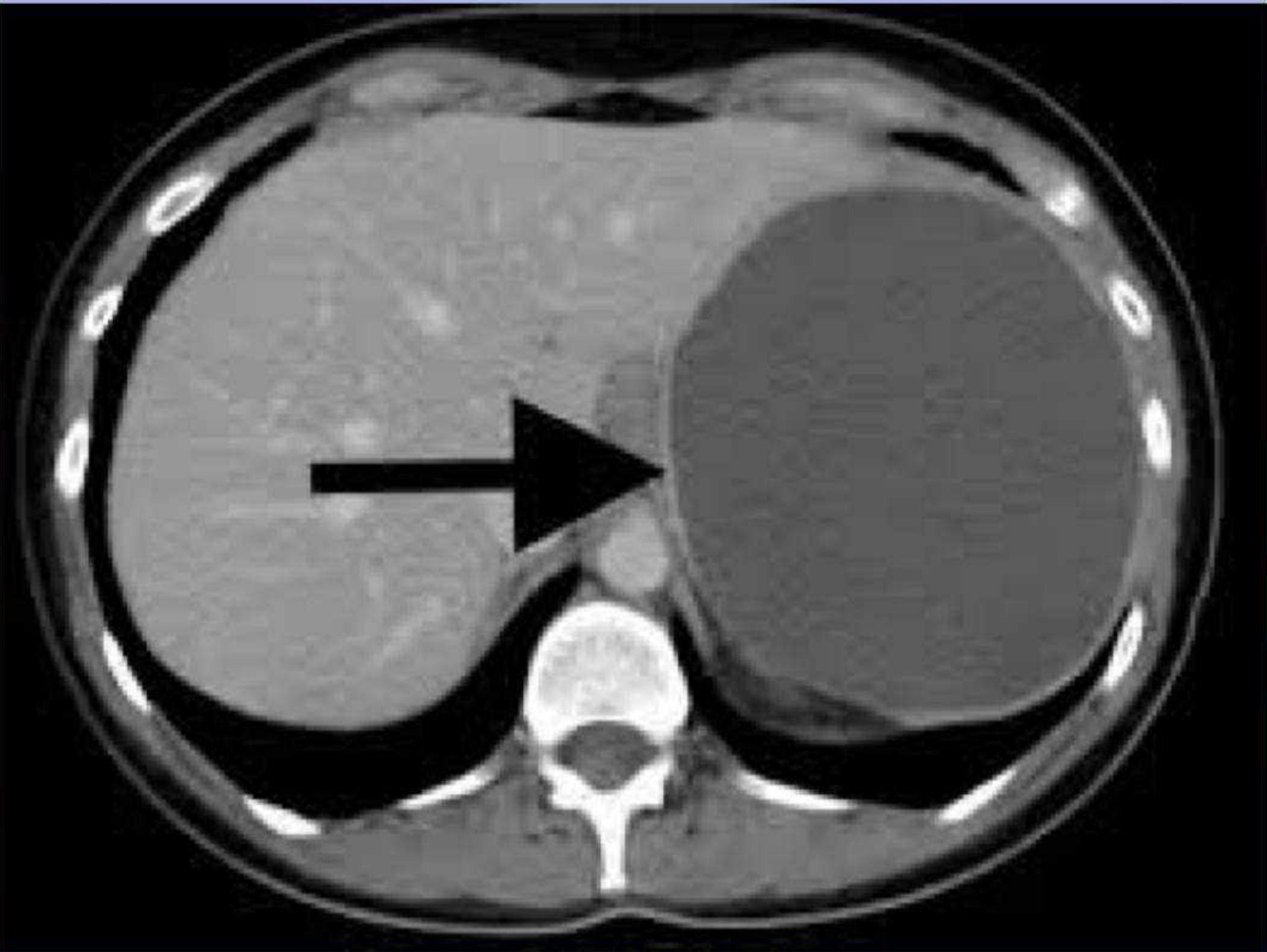
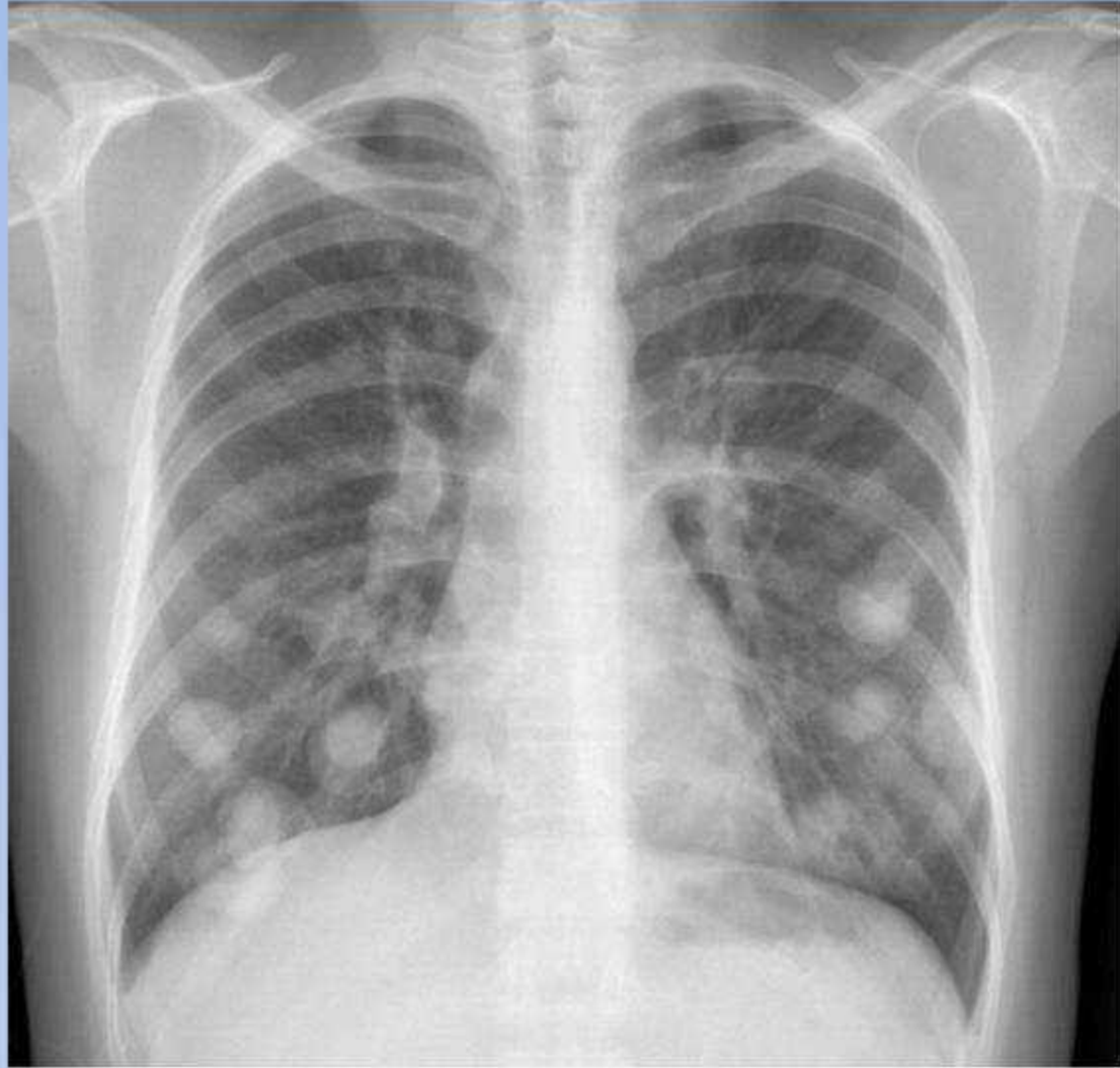
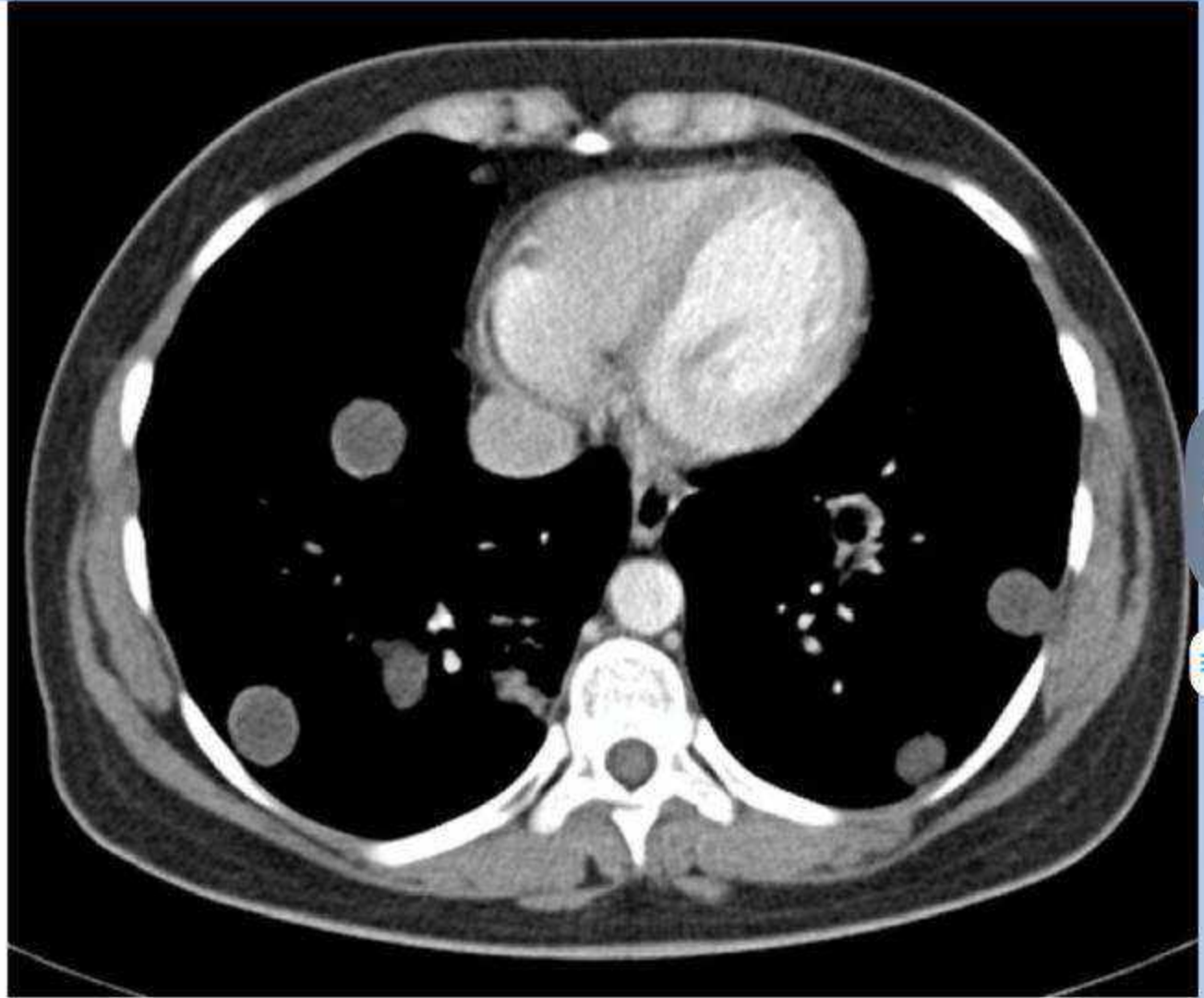


Figure 7. Thoracic CT-scan showing an atelectasis of the lower lobe of right lung (A) and hydatid cyst of the hepatic dome(B)

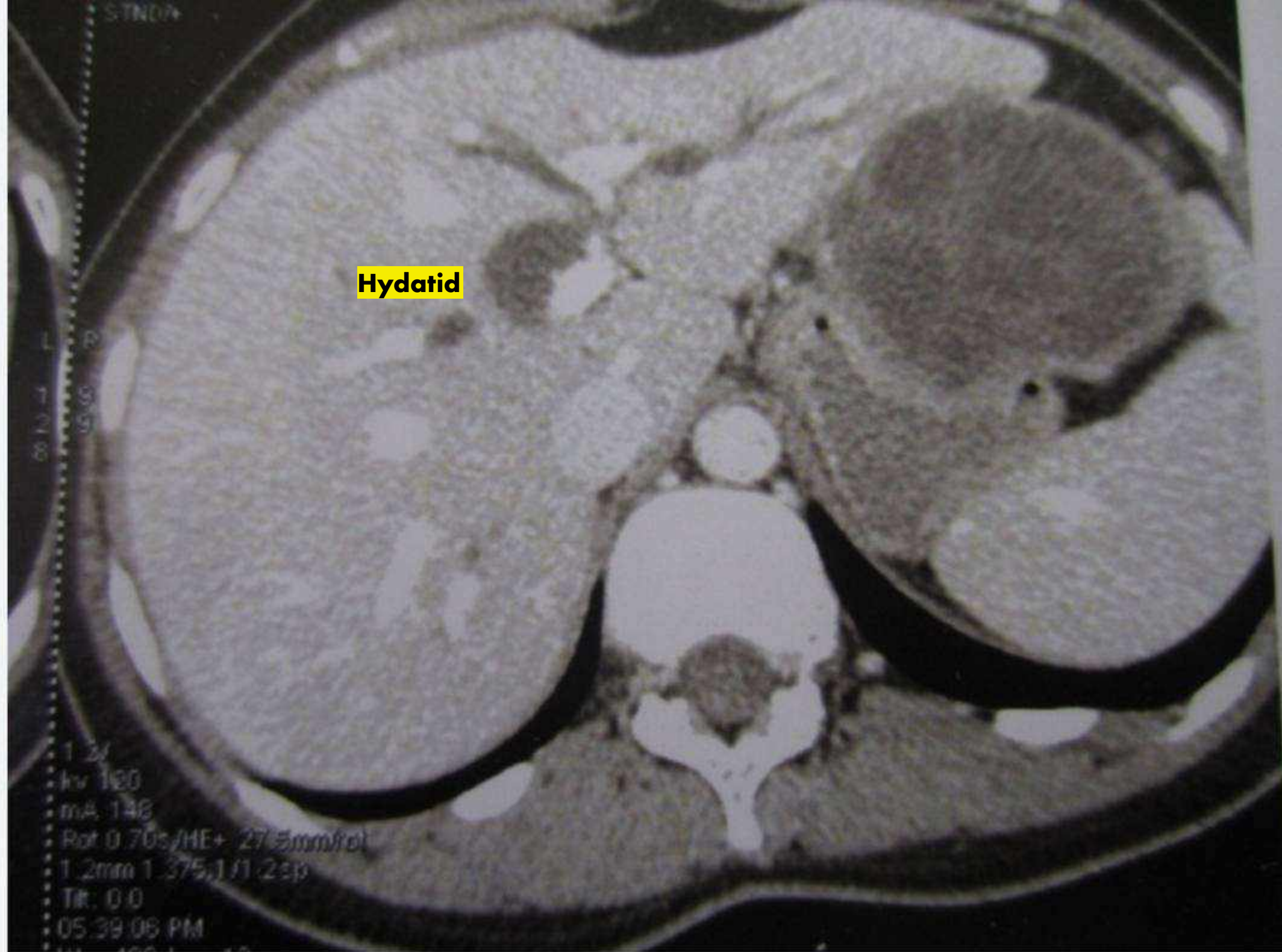




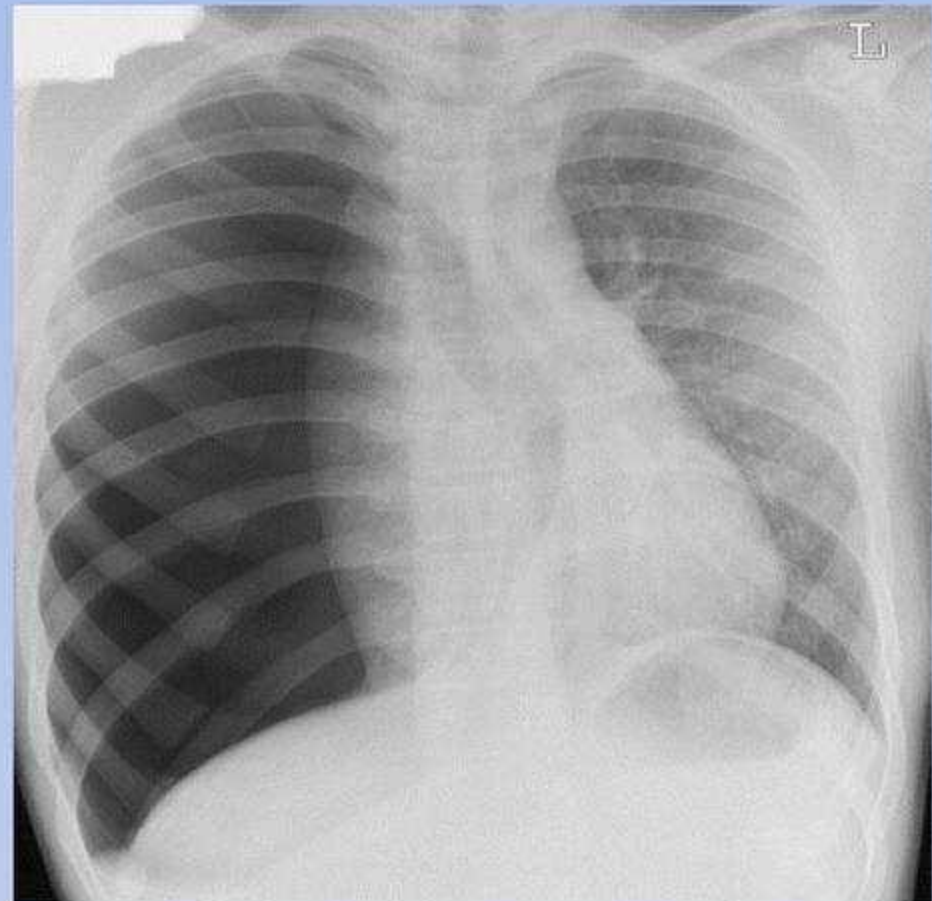
(a)



(b)



Retrosternal



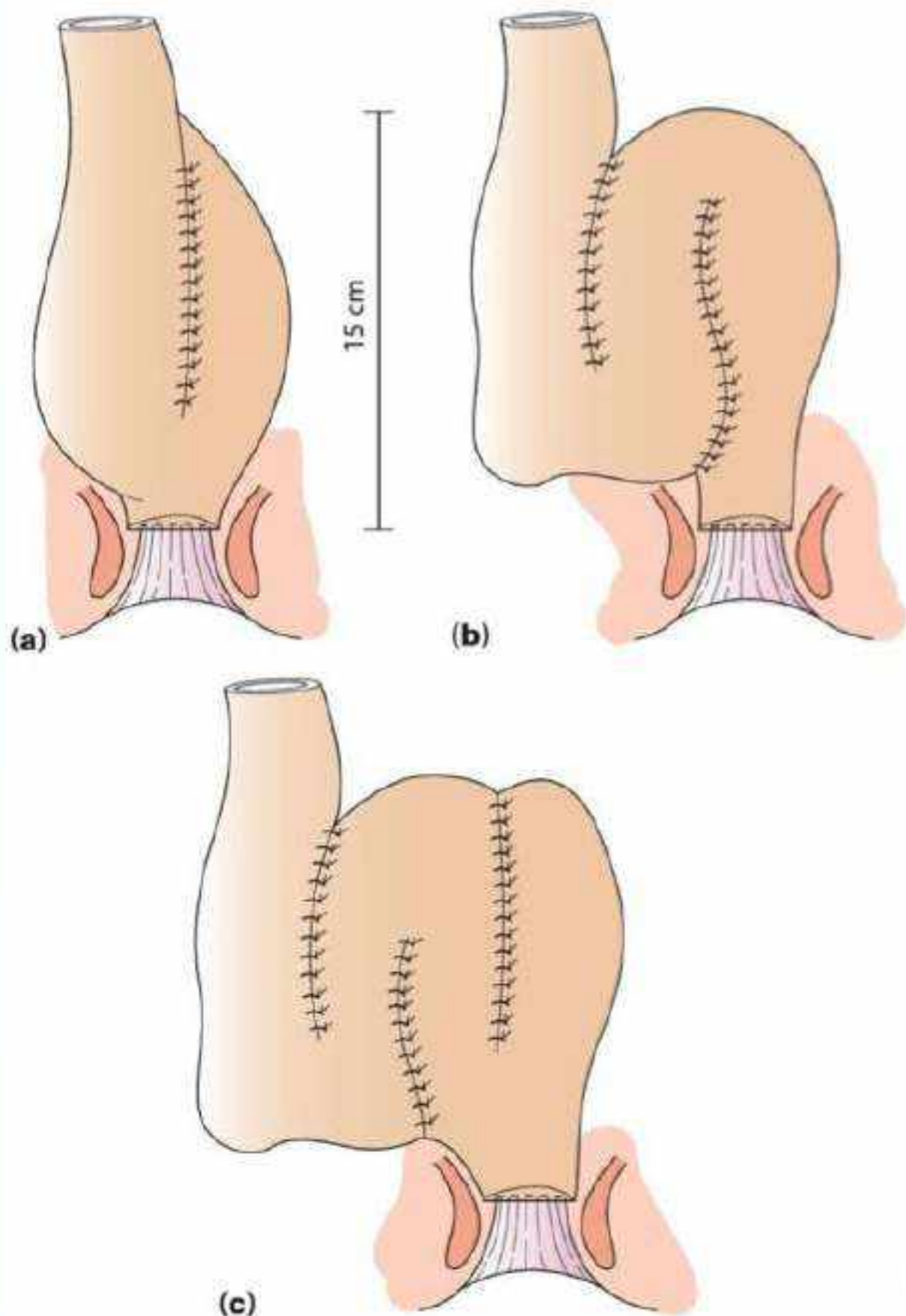


Figure 70.16 Ileoanal anastomosis with pouch. A substitute rectum is made from joined folds of ileum to form an expanded pouch of small intestine. The pouch is then joined directly to the anus at the level of the dentate line, all other rectal mucosa having been removed. Three ways of forming a pouch are illustrated: (a) a simple reversed 'J'; (b) an 'S' pouch; (c) a 'W' pouch.

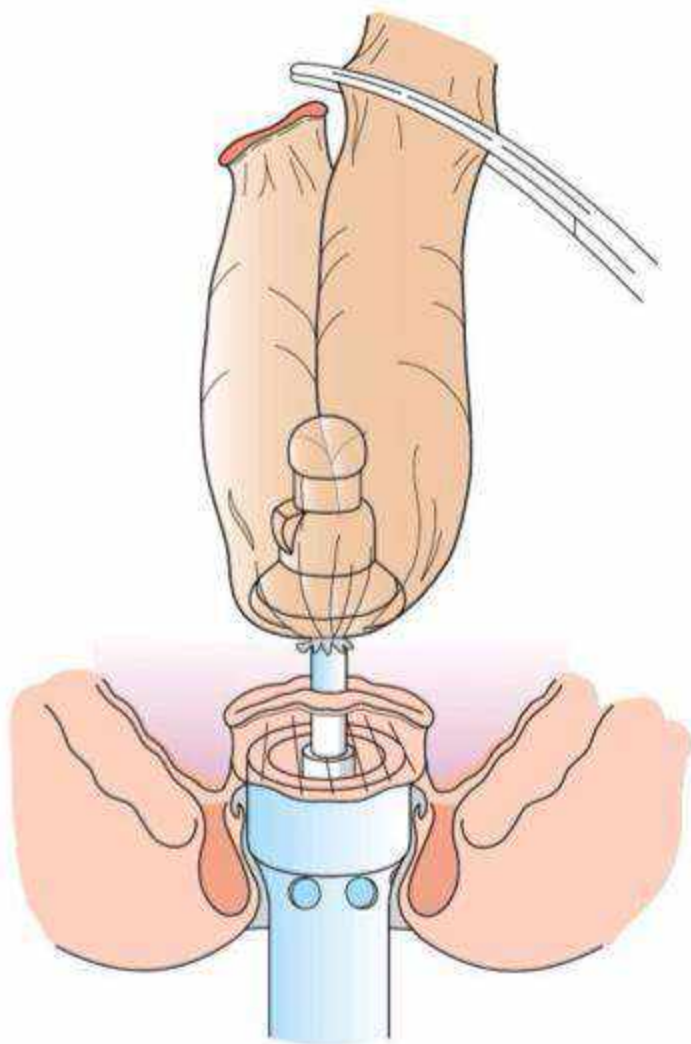
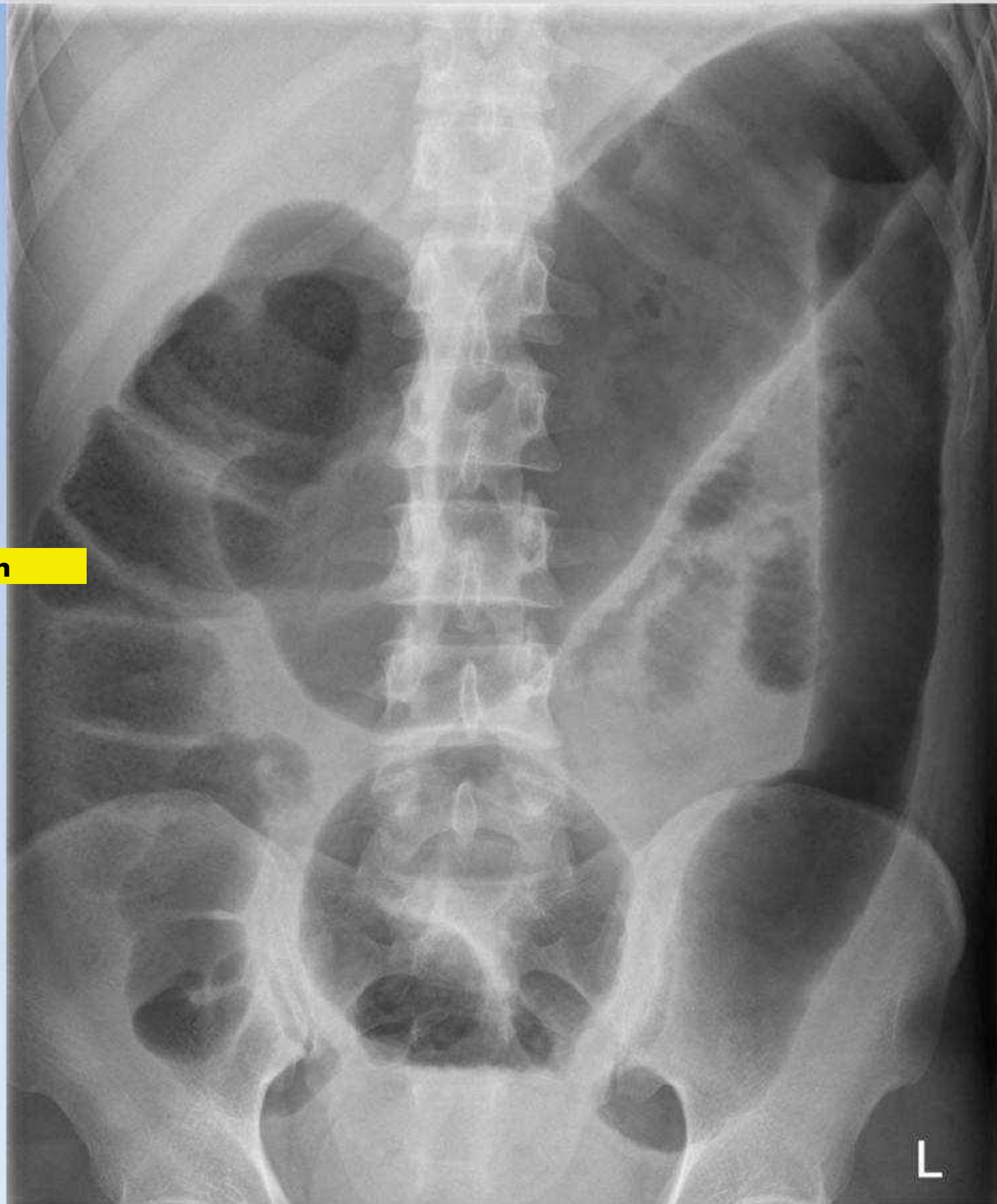
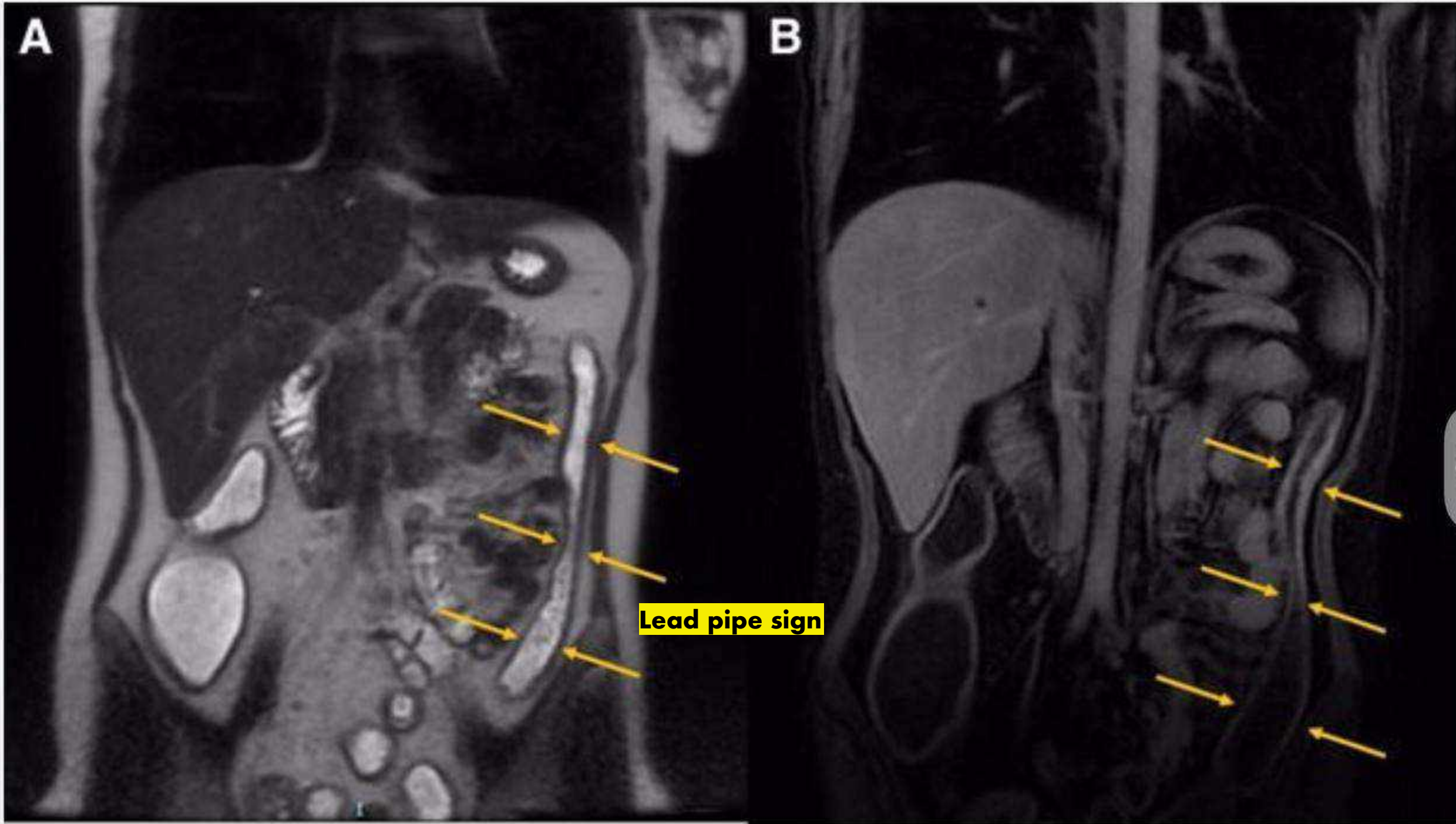


Figure 70.17 Stapled 'J' pouch with stapler creating a pouch–anus anastomosis.

megacolon



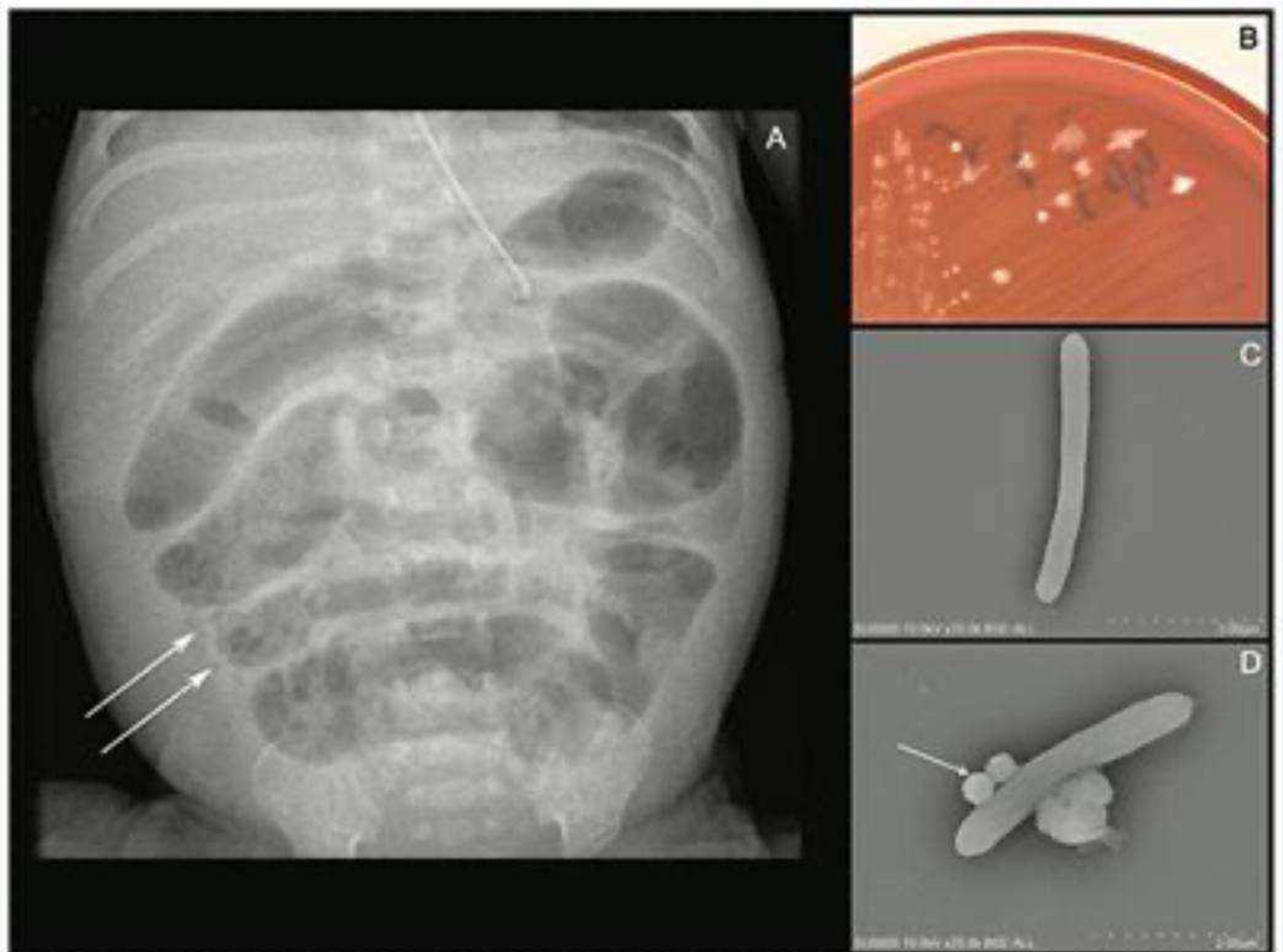




Lead pipe sign in ulcerative colitis | Abdominal Radiology

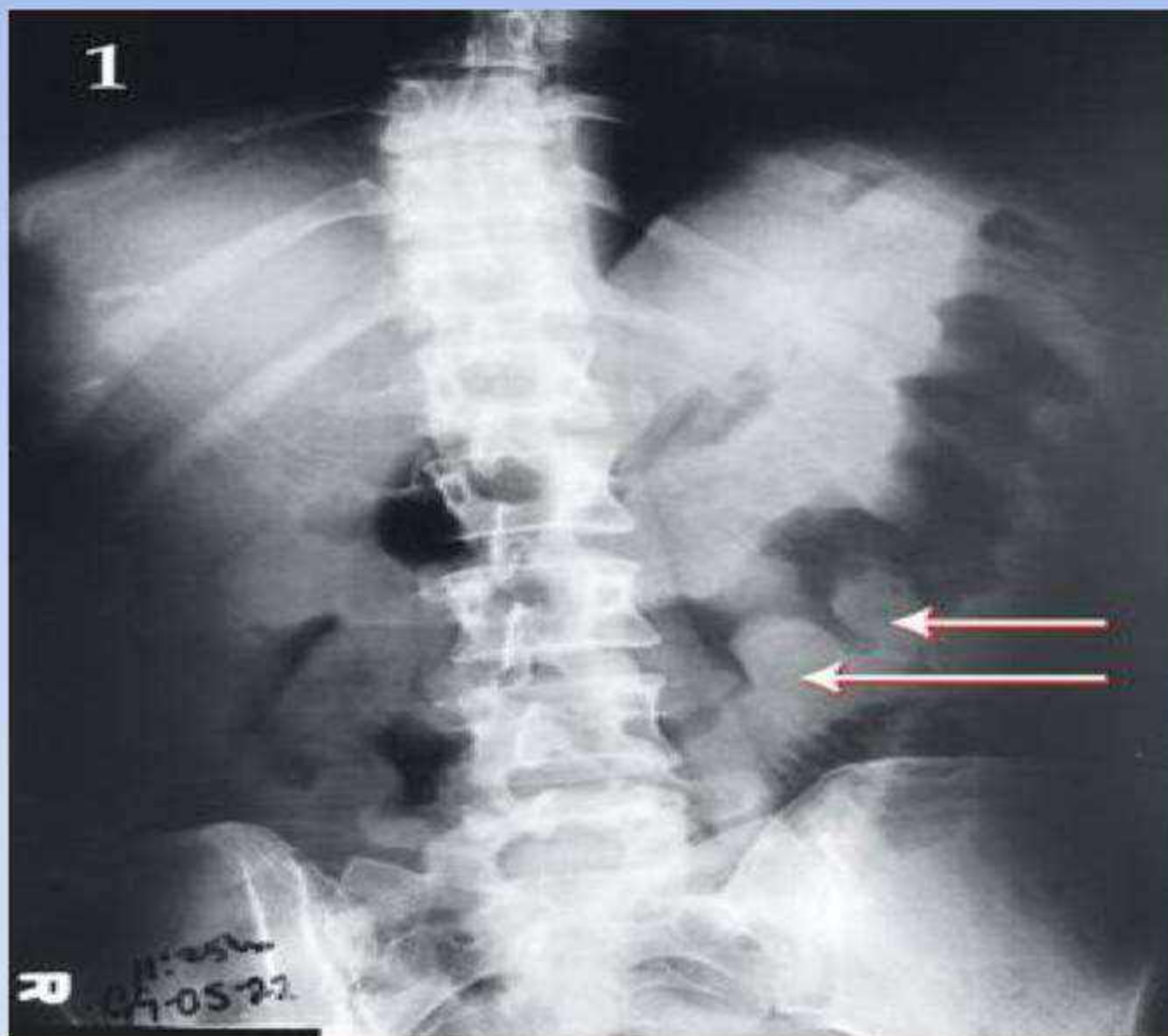
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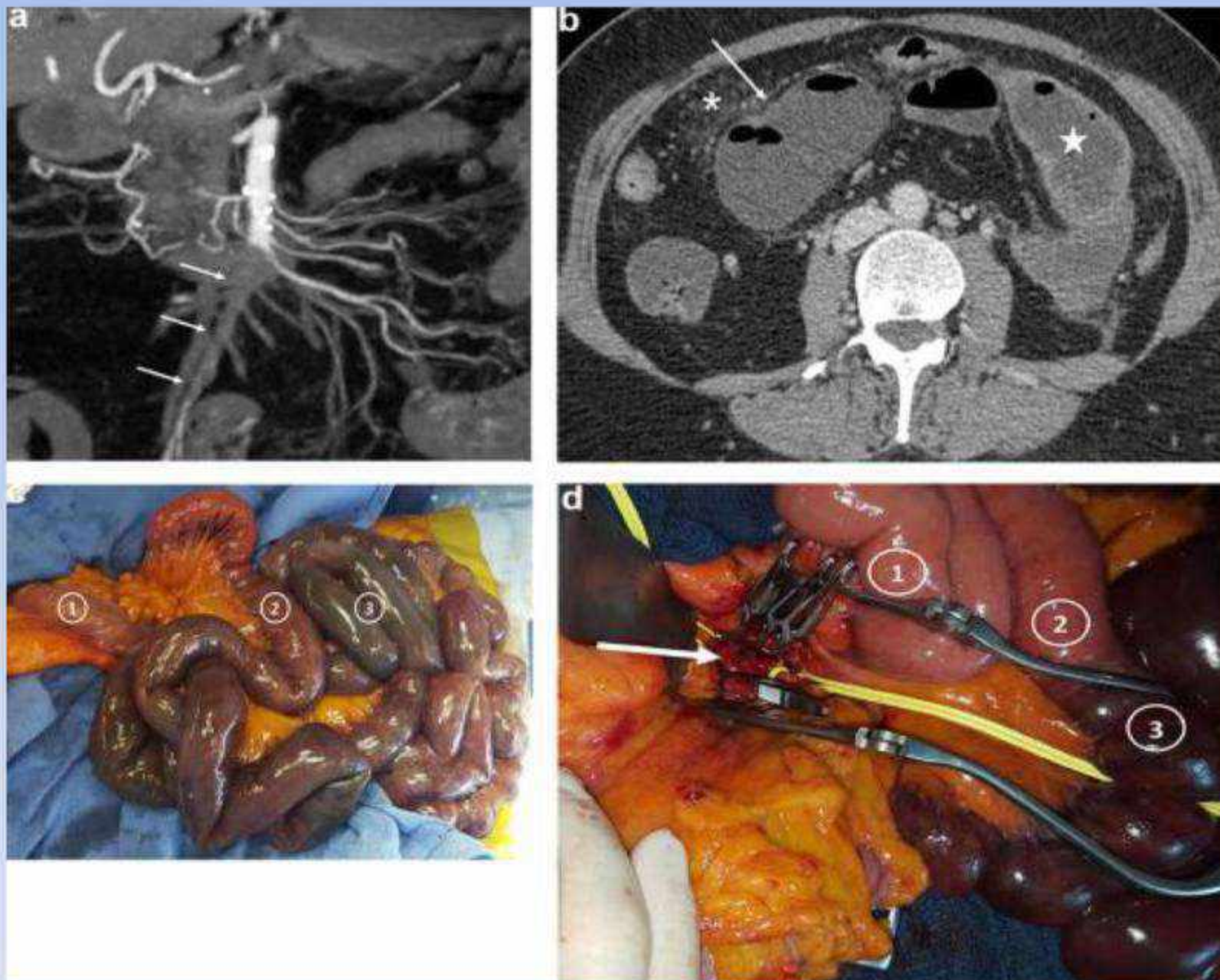




Small bowel infarction and perforation | Image | Radiopaedia.org



chronic ischemia



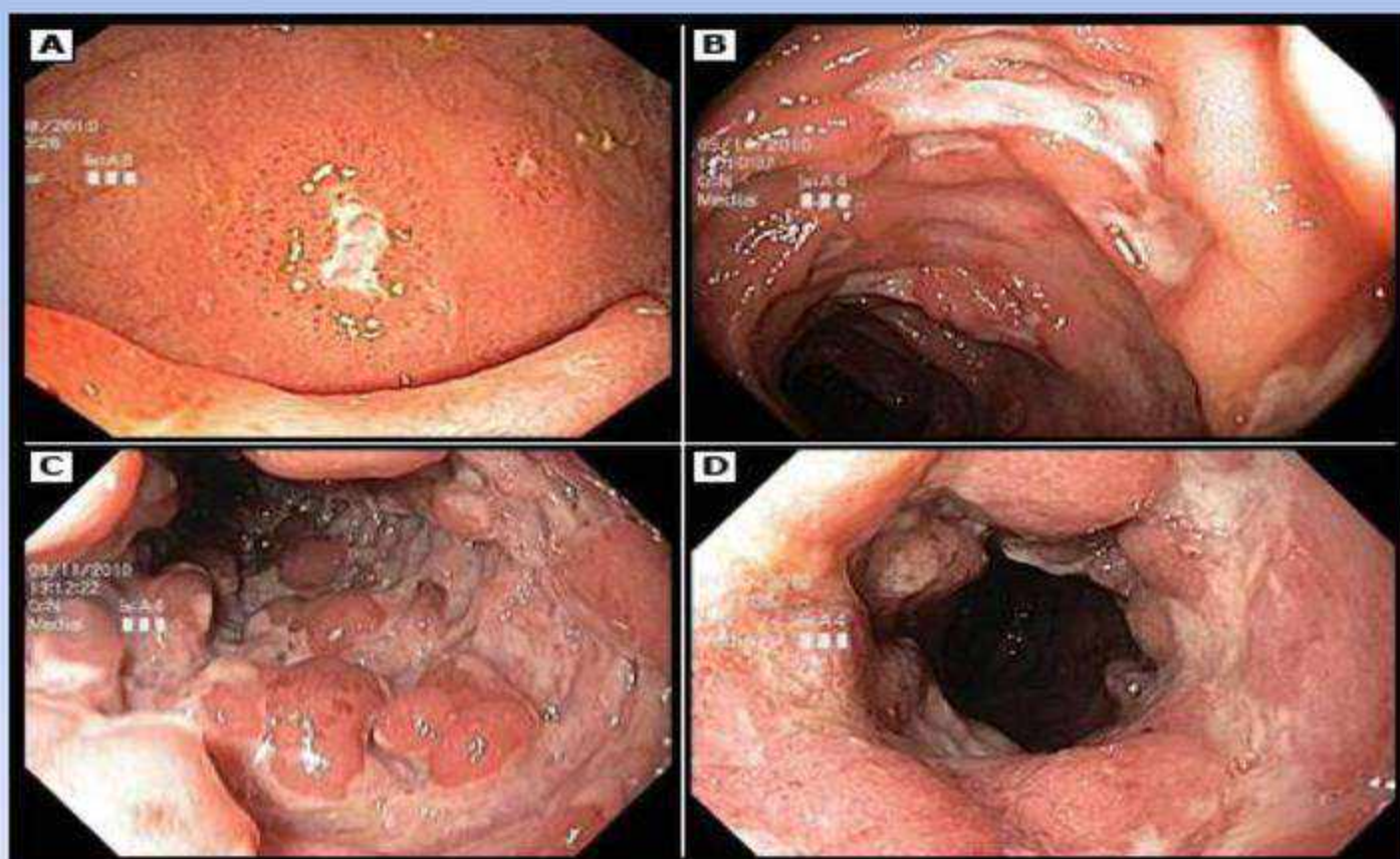
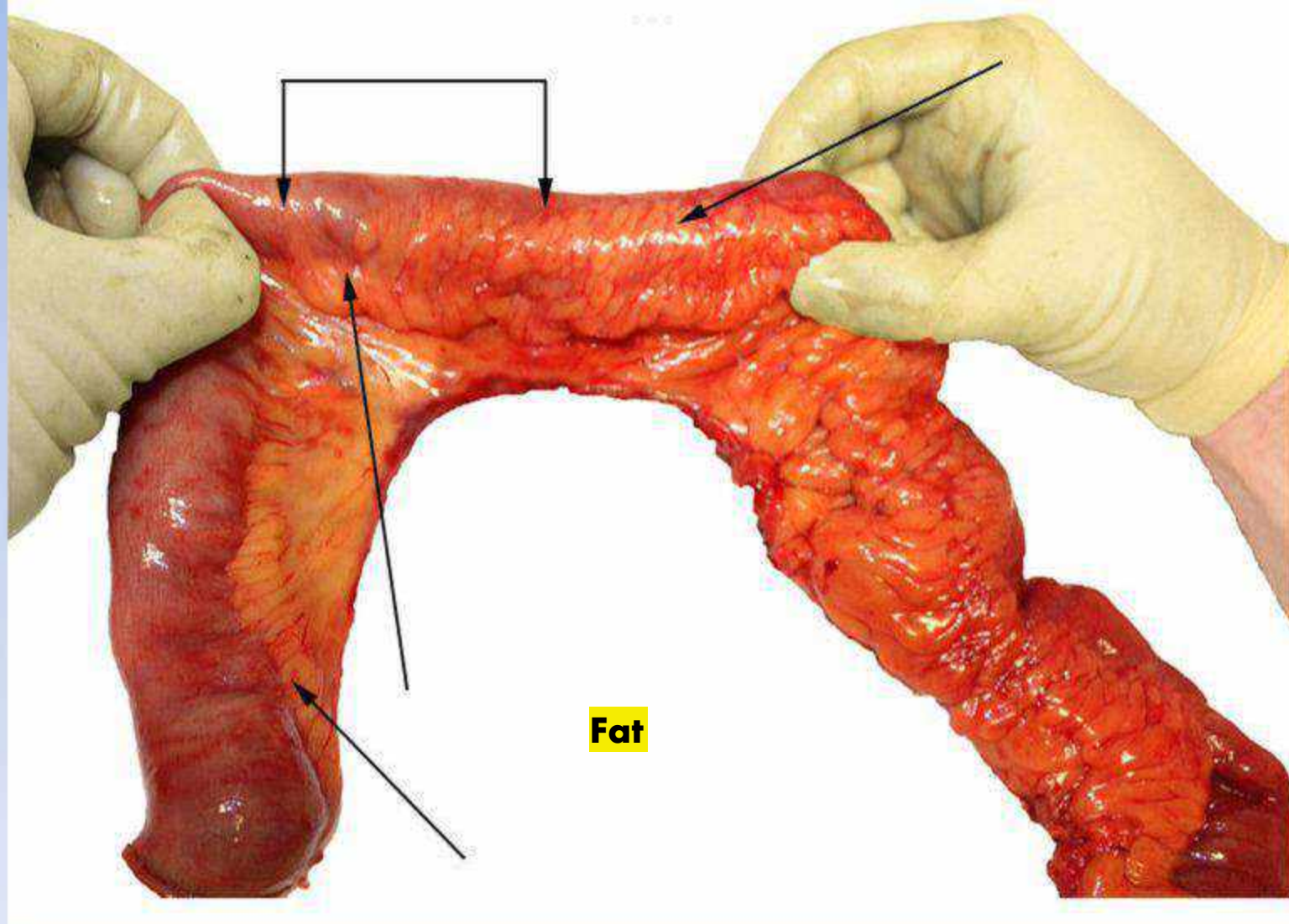




Jaw Thrust

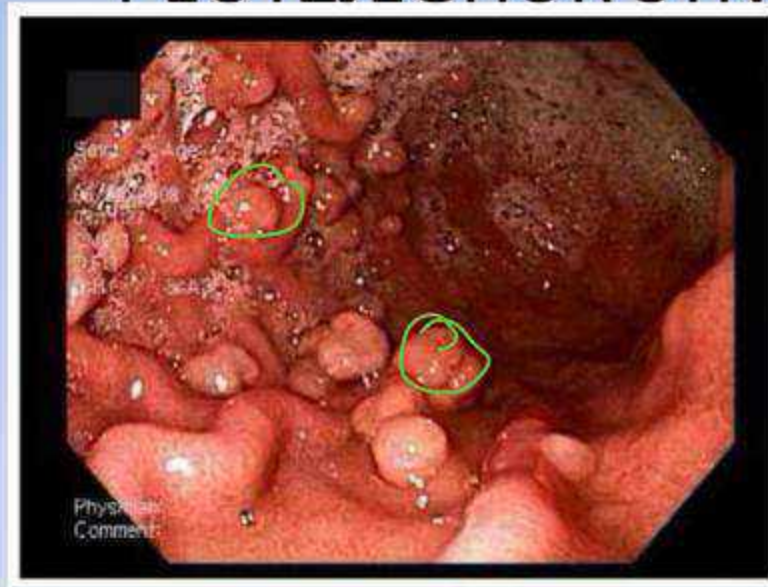
Battle sign



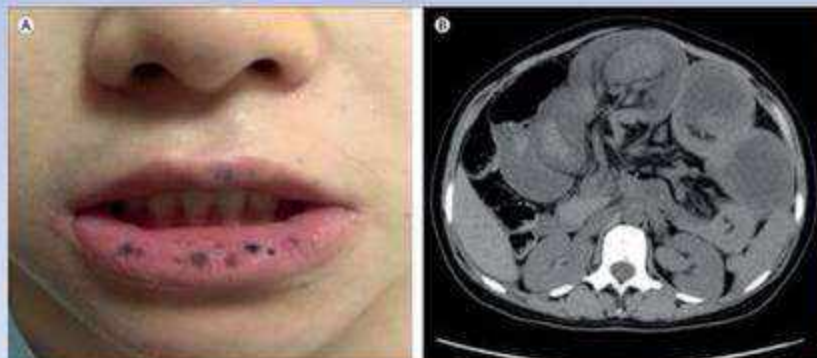




PEUTZJEGHUR SYNDROME PIC •



Peutzjeghur



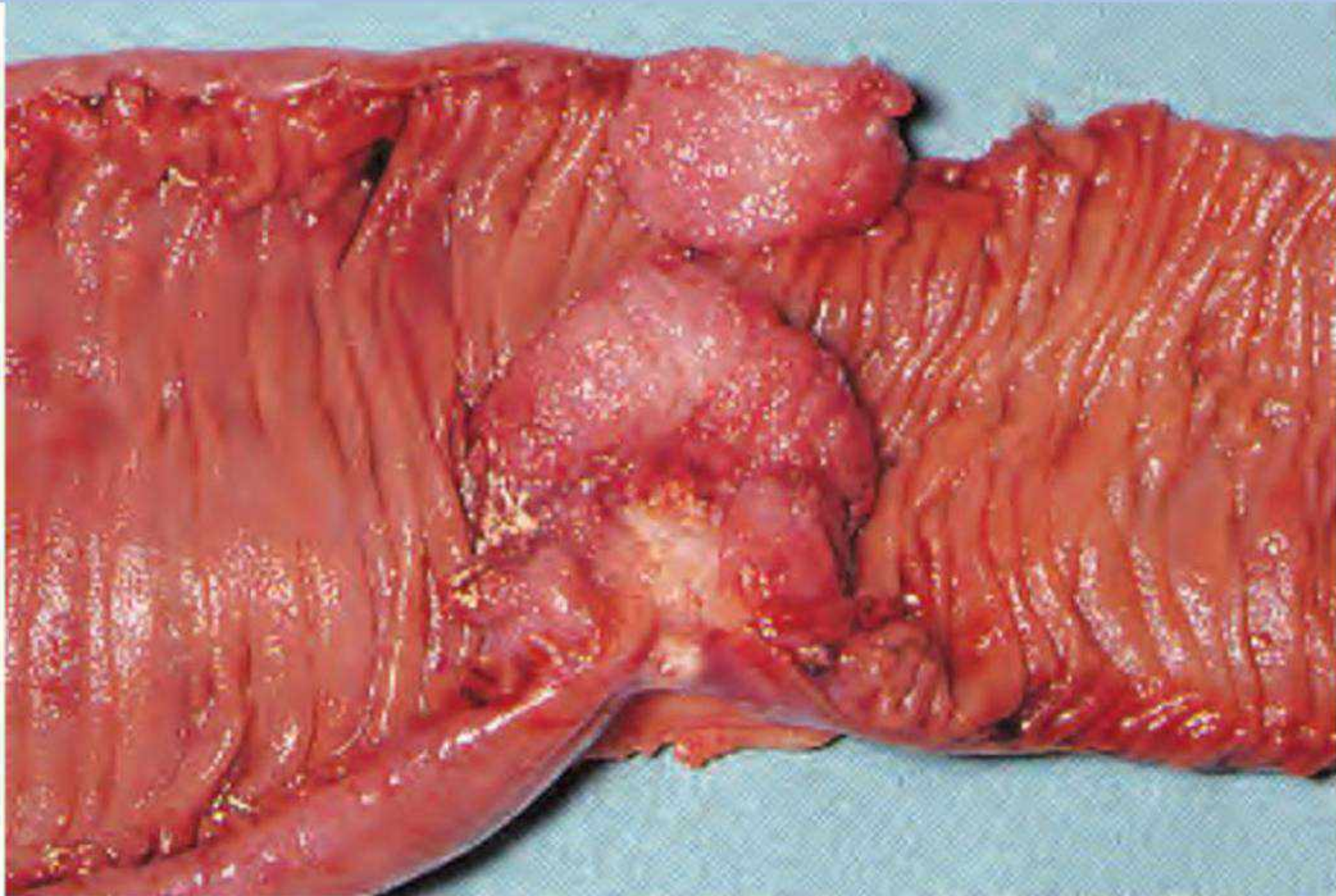
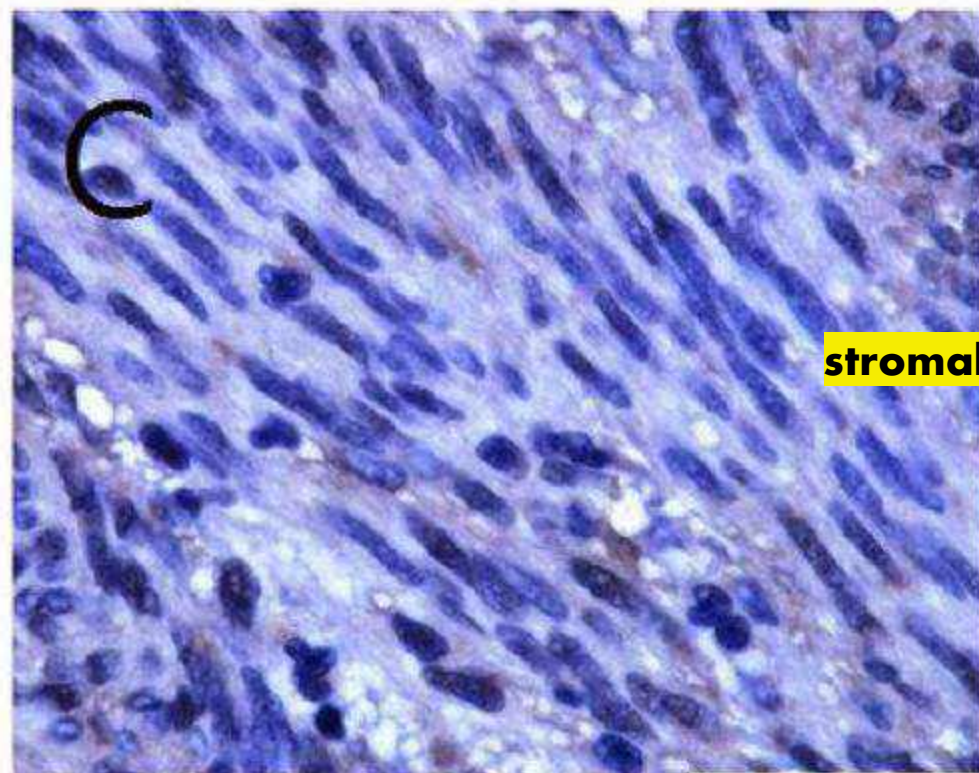
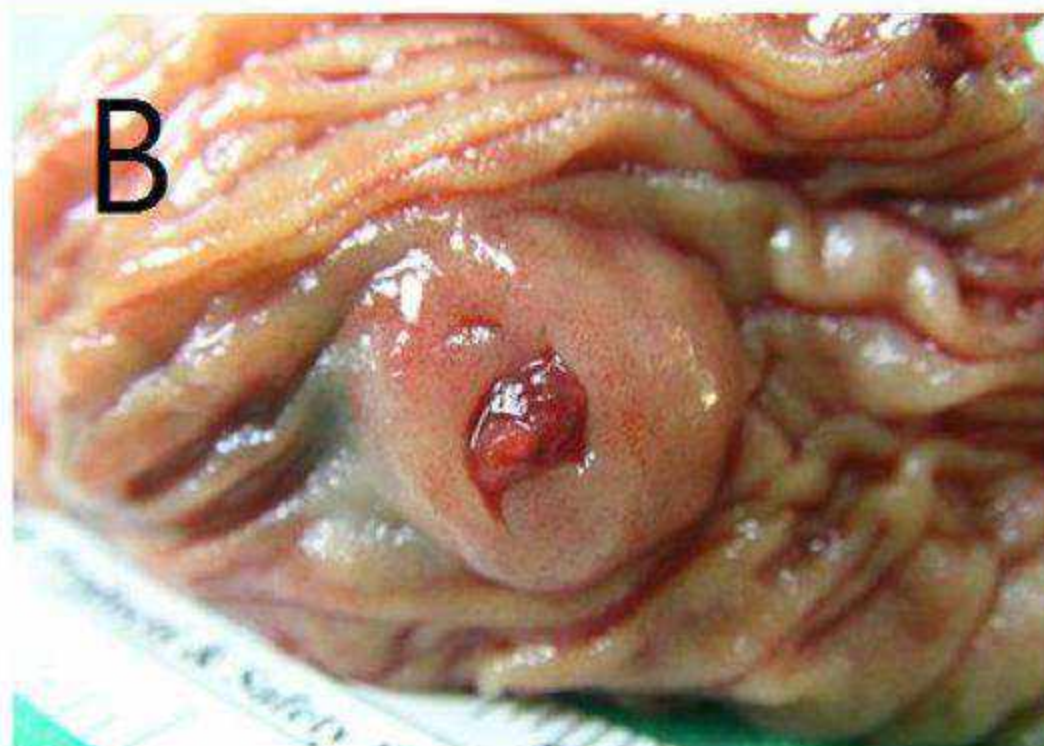
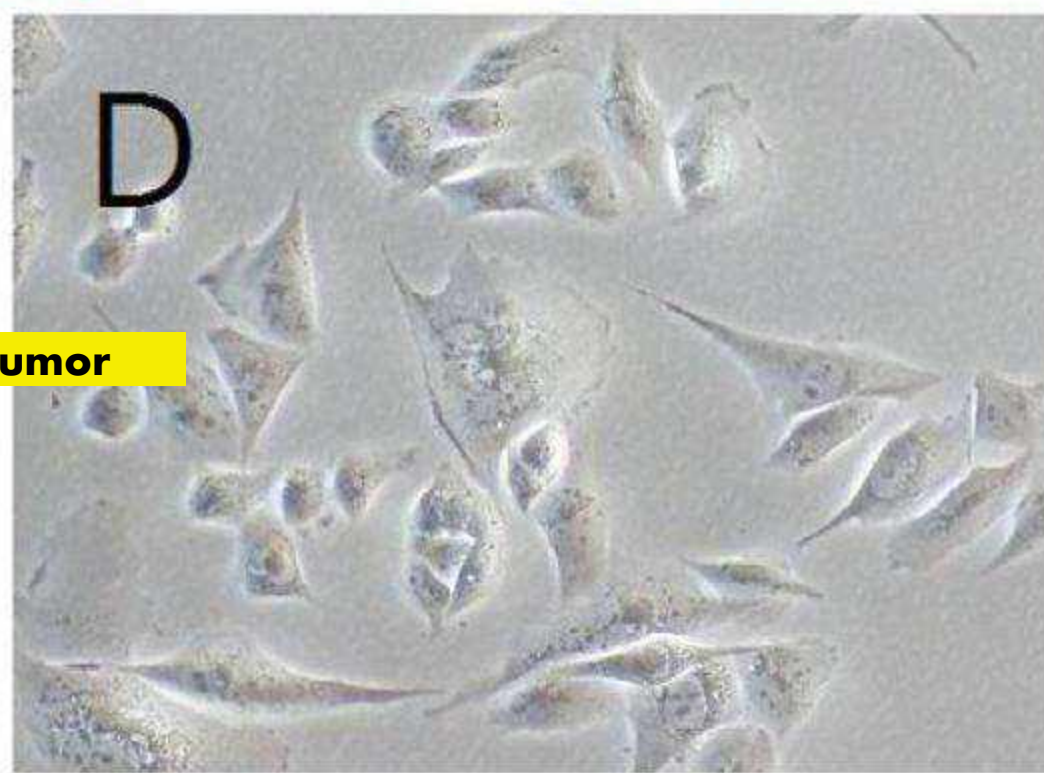


Figure 69.9 Small bowel adenocarcinoma.



stromal tumor



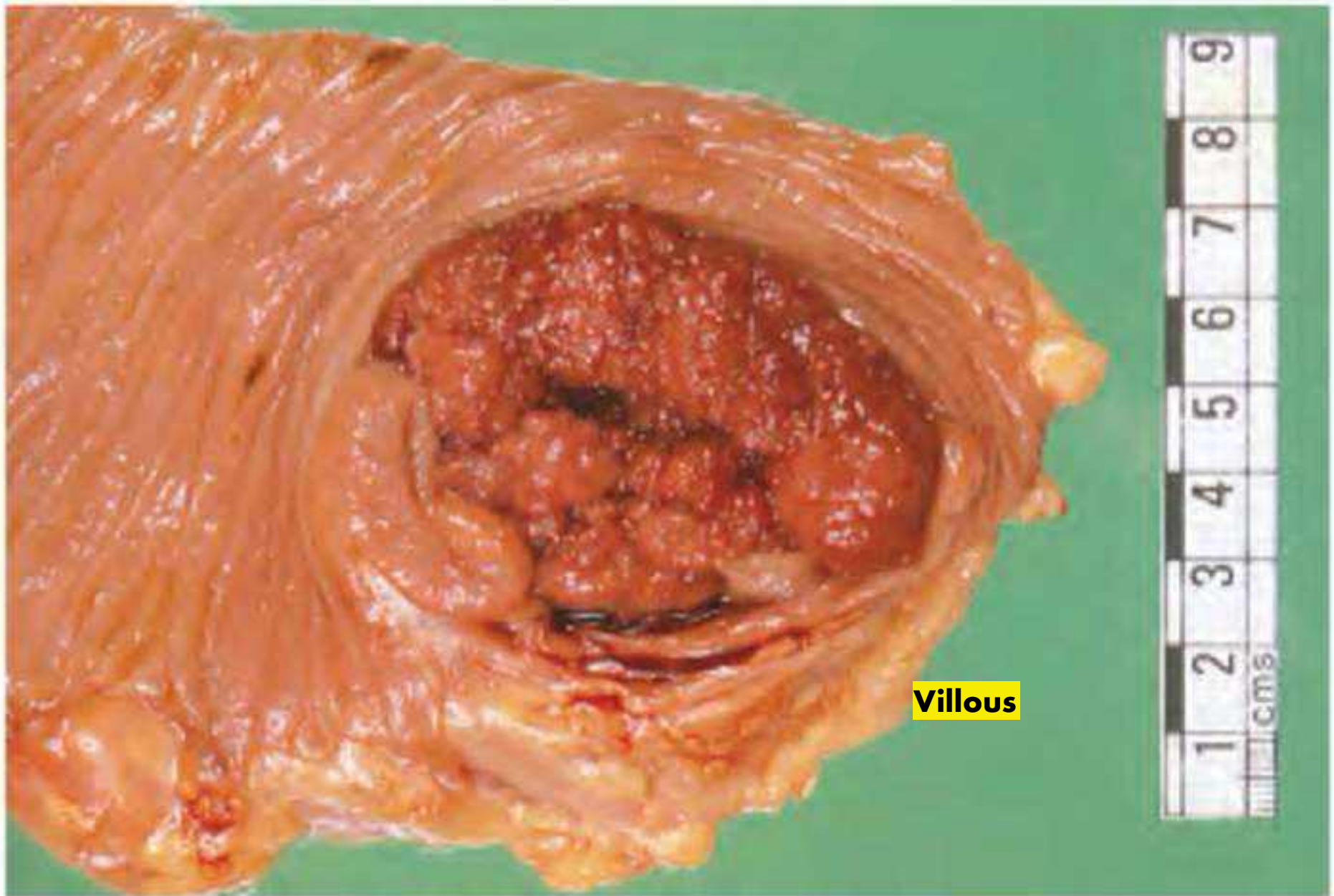
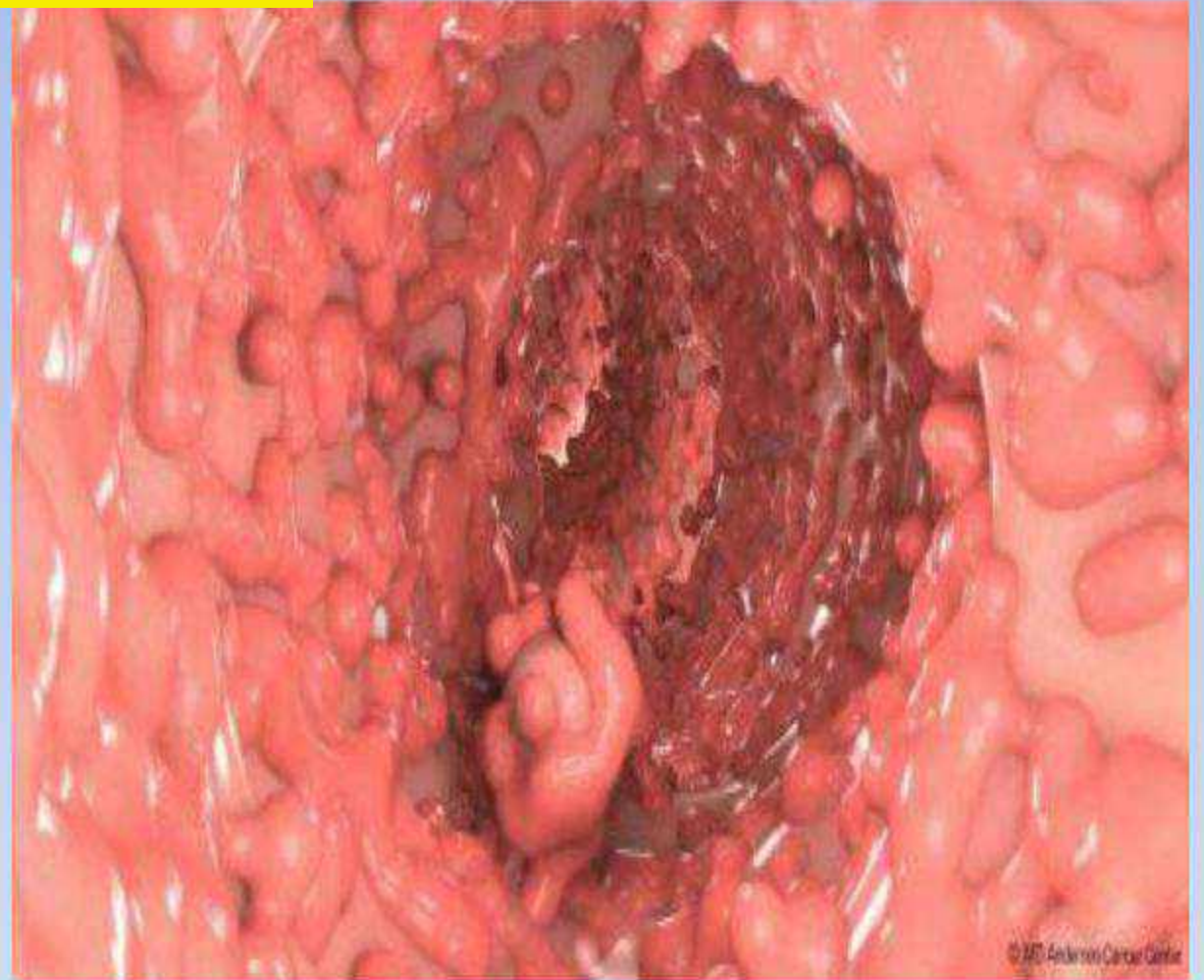


Figure 70.8 Large villous tumour of the caecum with malignant change.

familial adenomatous polyp



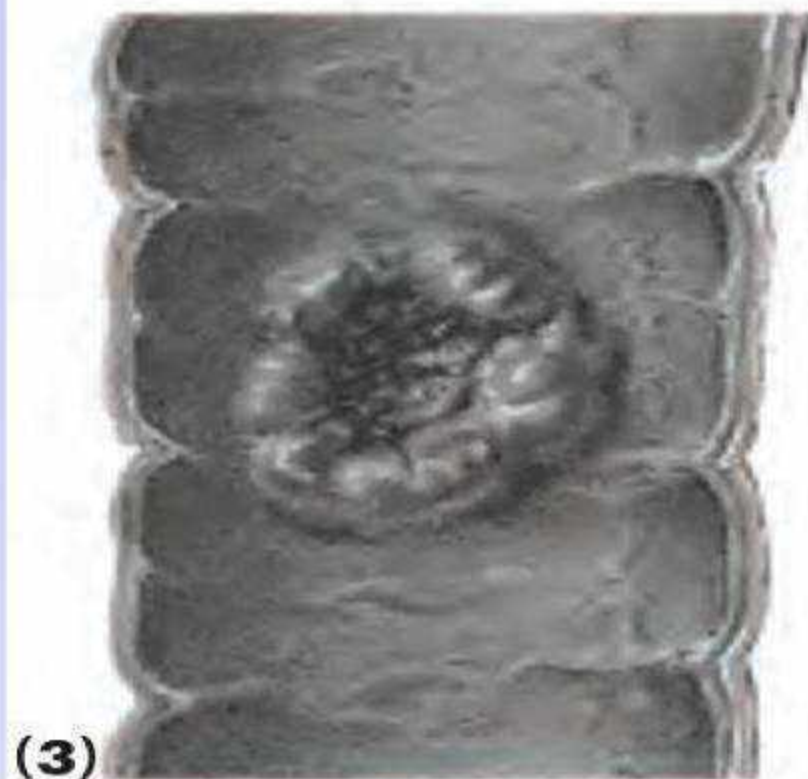
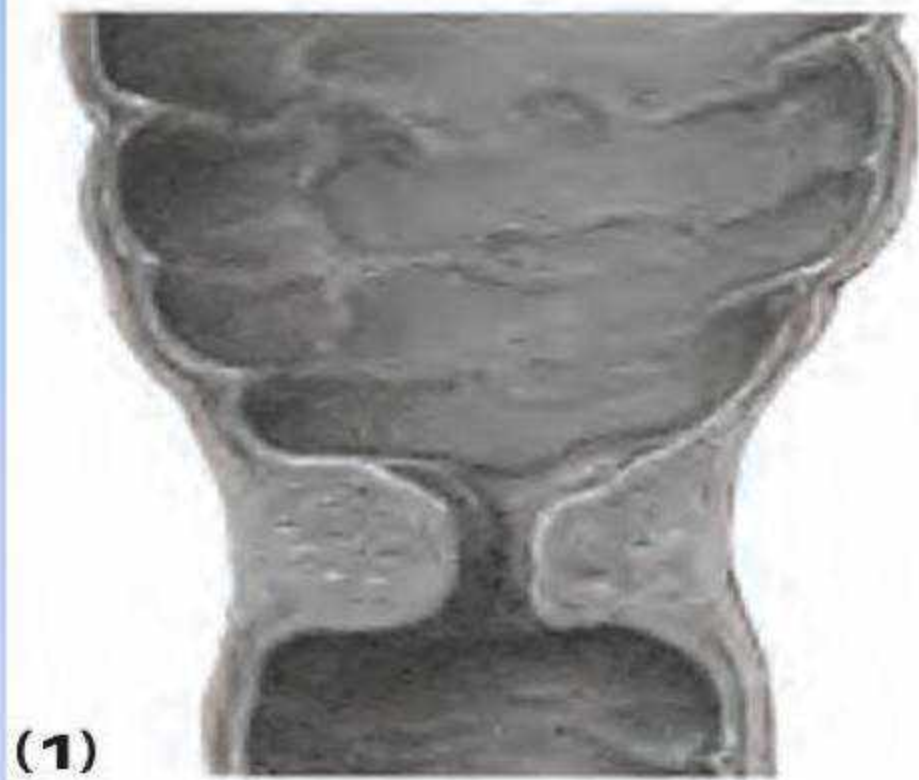


Figure 70.3 The four common macroscopic varieties of carcinoma of the colon: (1) annular; (2) tubular; (3) ulcer; (4) cauliflower.

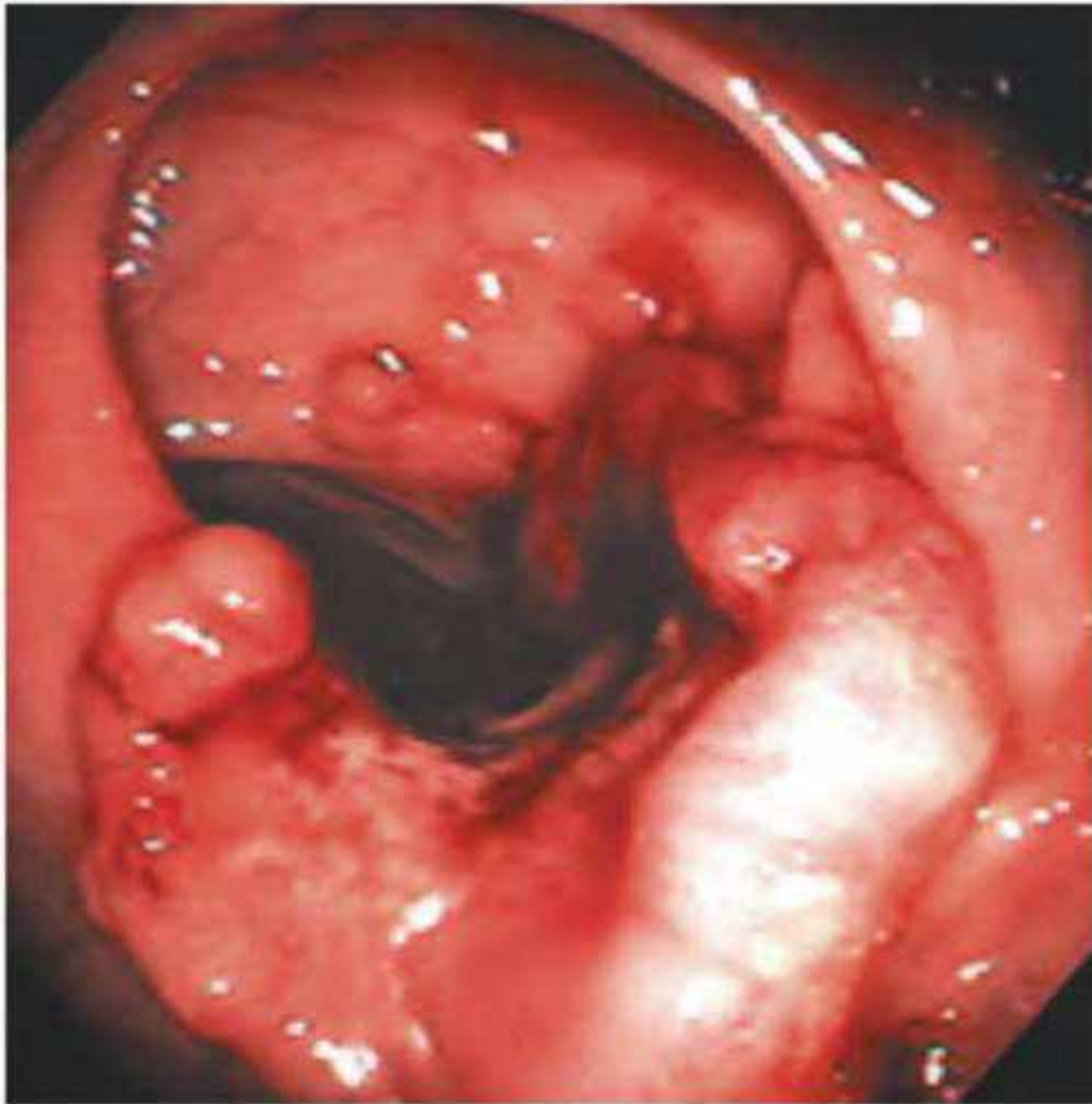


Figure 70.5 A cancer seen at colonoscopy.

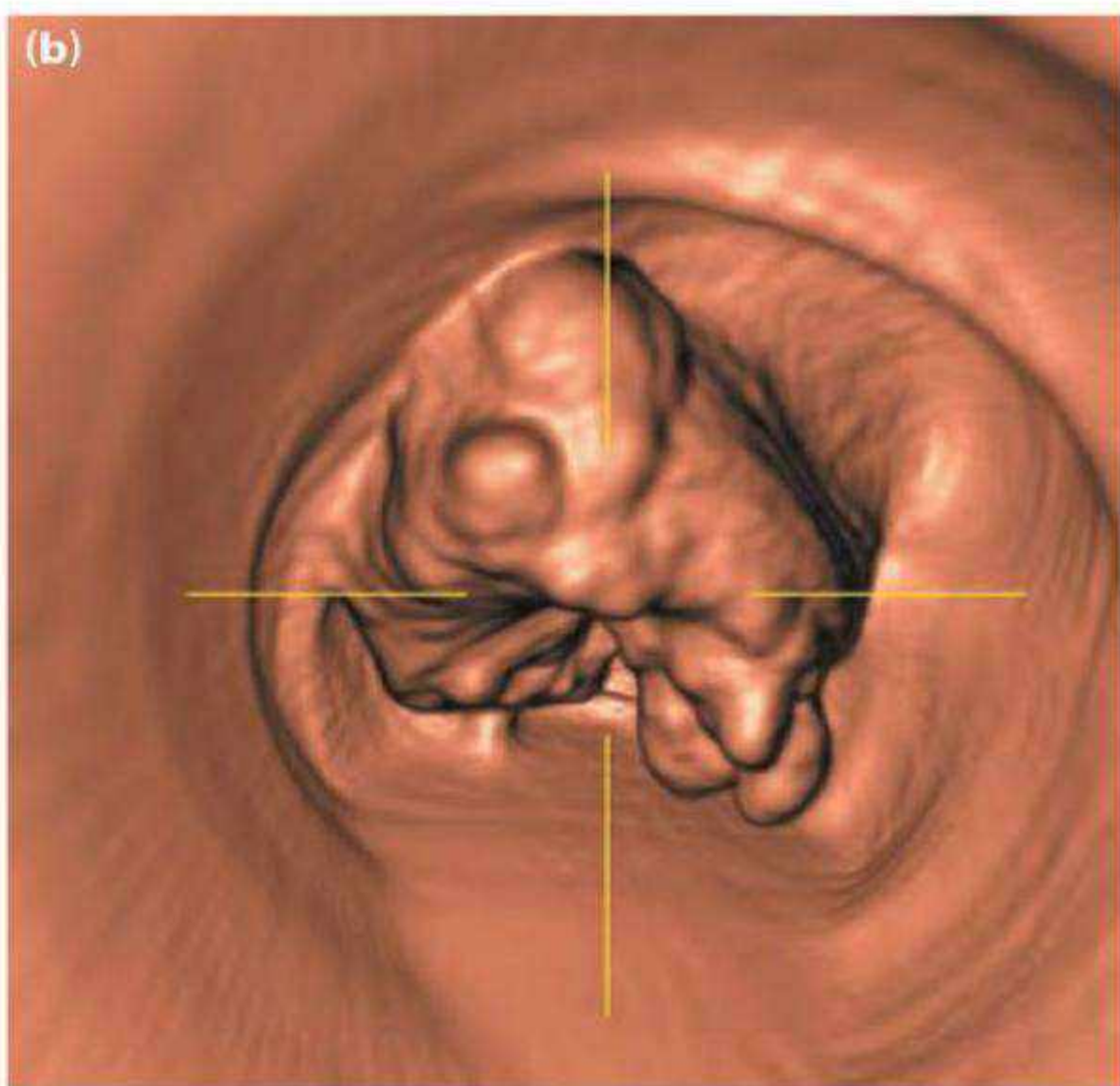
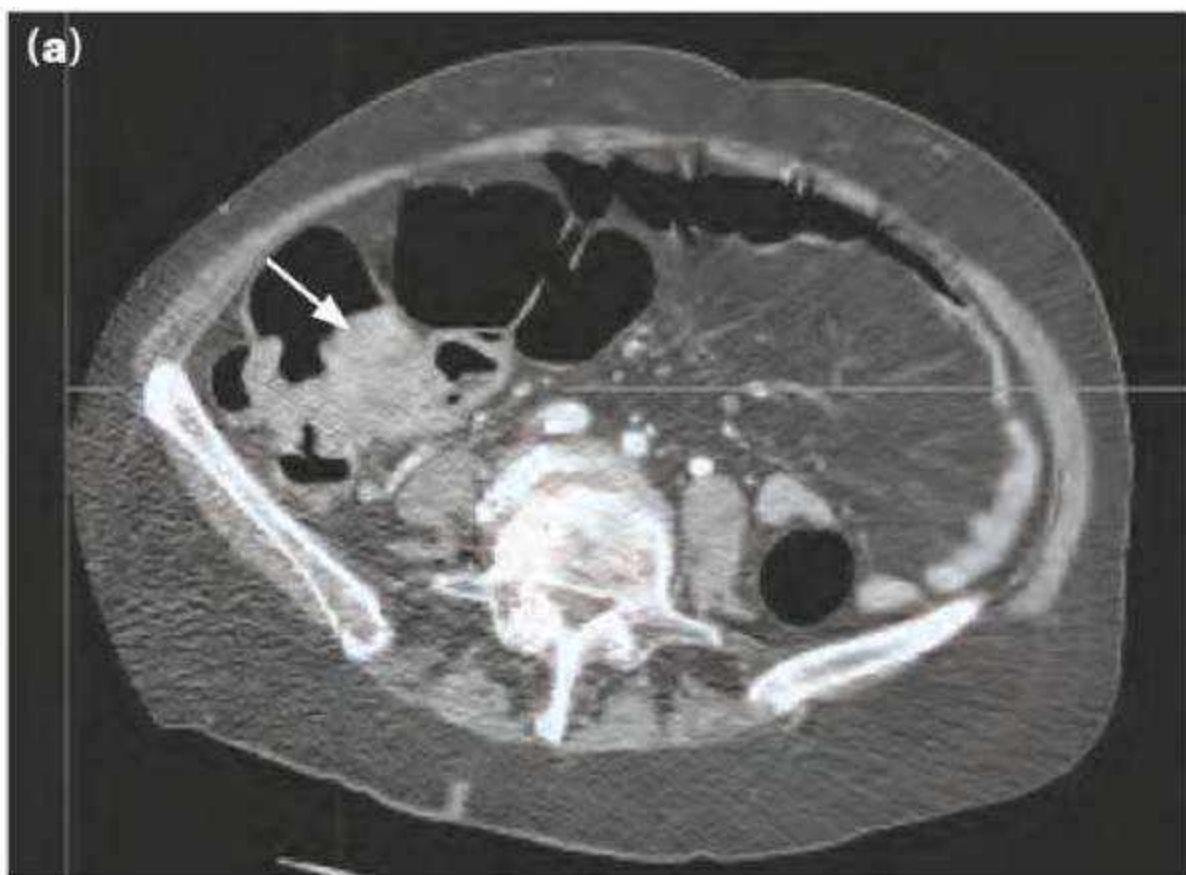


Figure 70.7 Virtual colonoscopy of the right colon. **(a)** Computed tomography scan of the abdomen showing a caecal tumour (arrow). **(b)** Formatted 'virtual' image of the same lesion as in **(a)** (courtesy of Dr A Slater, John Radcliffe Hospital, Oxford, UK).

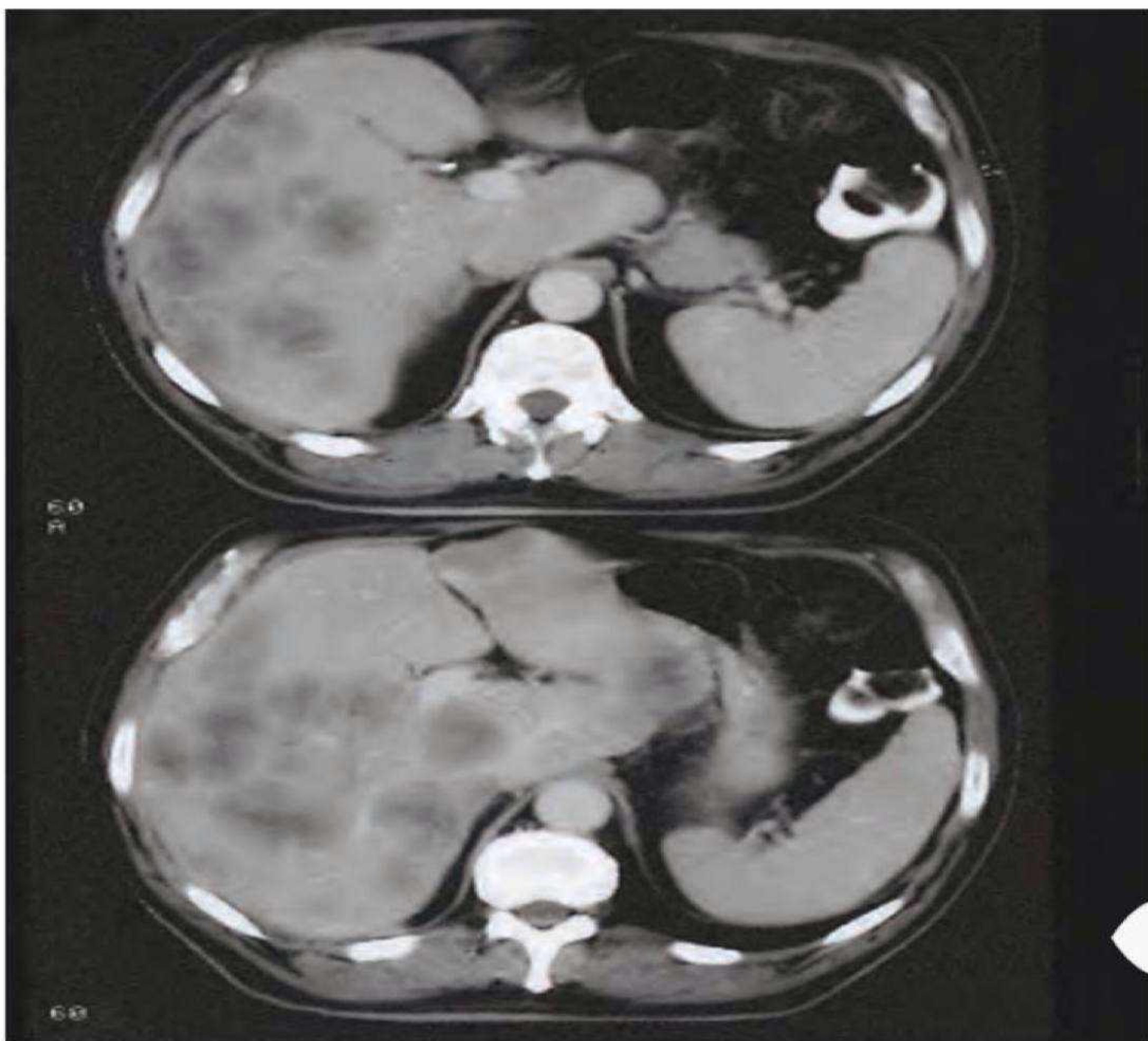


Figure 70.12 Computed tomography scan of the liver showing multiple metastases from carcinoma of the colon.



Figure 70.6 Barium enema showing a carcinoma of the sigmoid colon. It may have an 'apple core' appearance (i.e. a short, irregular stenosis with sharp shoulders at each end).

College of medicine university of jabir ibn hayan

Abdominal Incision



Created By Dr.Ahmed Emad Alkhafaji
(M.B.Ch.B)

How you choose surgical incisions

Three basic principles to guide selection of the incision and closure of the wound

Accessibility

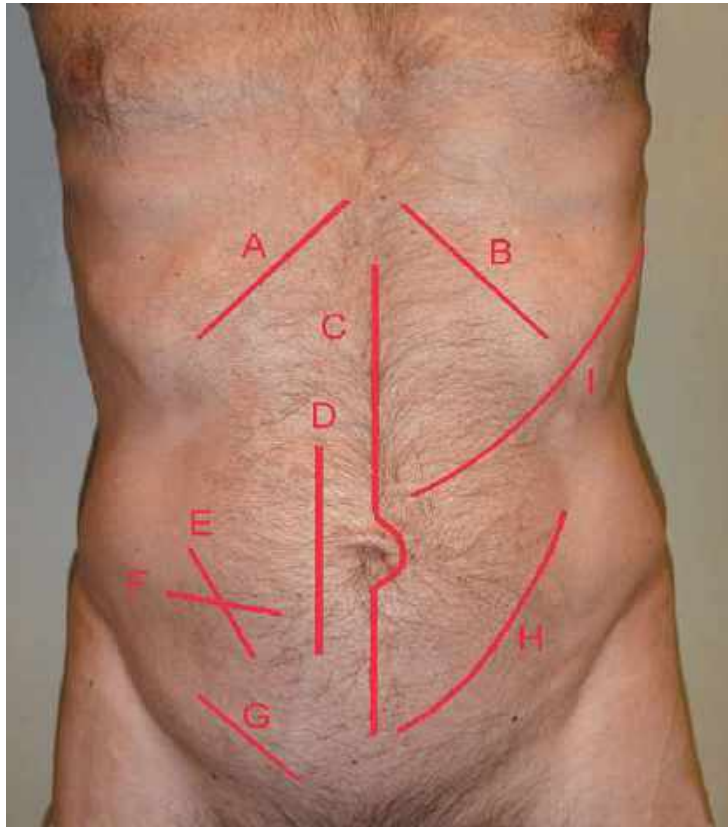
Flexibility

Security

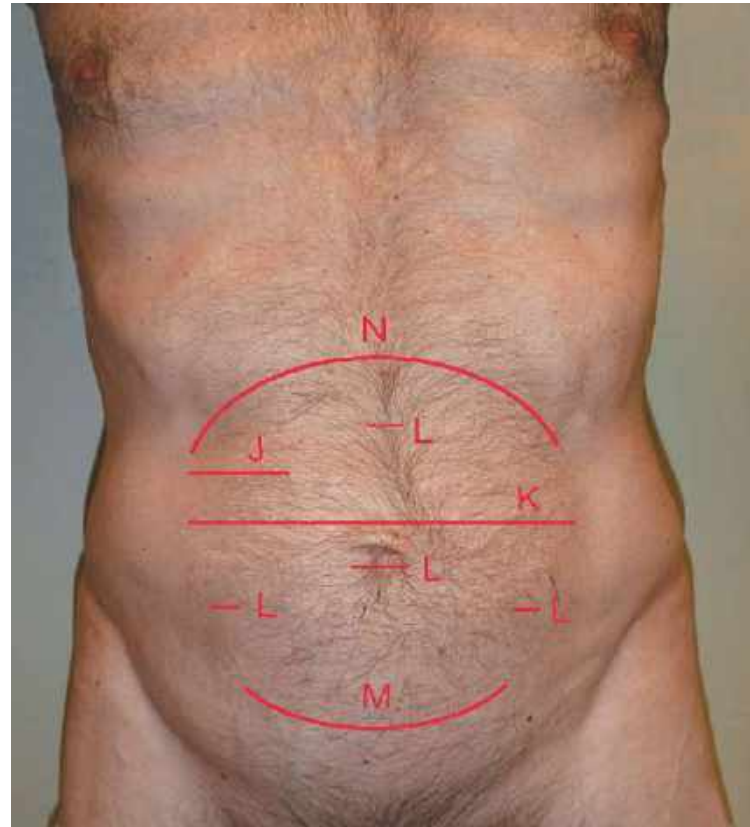
Choice of Incision depends on typed of :

- 1- Organ**
- 2-Procedure**
- 3- Body**
- 4- Urgency of procedure**
- 5-Previous incisions**
- 6- Preference and experience**

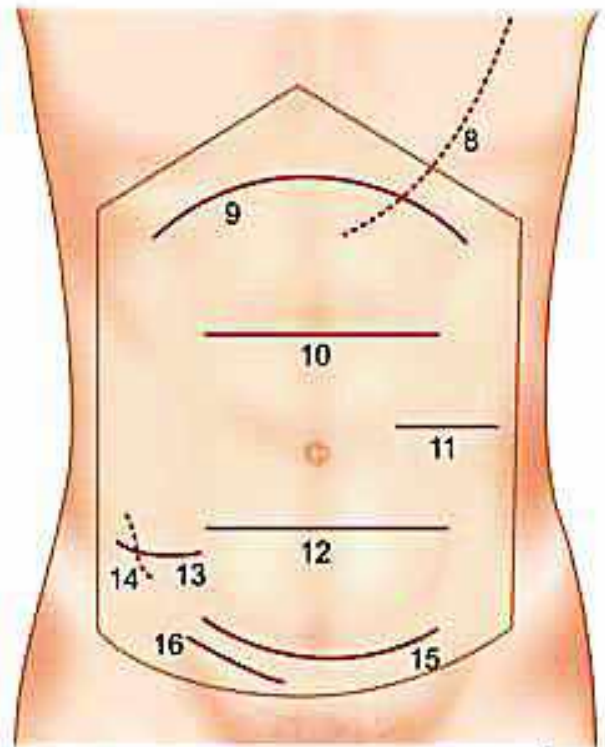
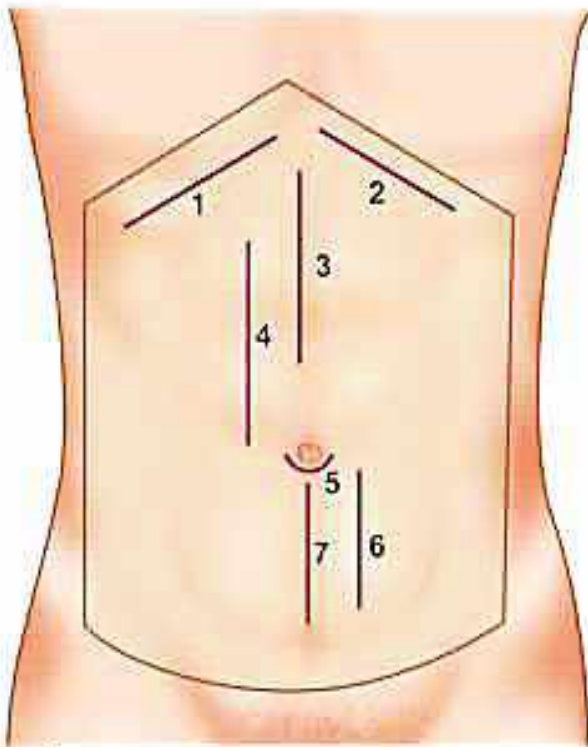
ABDOMINAL INCISIONS



- A. right subcostal**
(cholecystectomy and bile duct surgery)
- B. left subcostal** (splenectomy)
- C. midline laparotomy**
- D. right paramedian**
- E. gridiron** (appendectomy)
- F. Lanz** (appendectomy)
- G. right inguinal** (groin hernia repair)
- H. left lower quadrant oblique** (kidney transplant or pelvic surgery)
- I. left thoracoabdominal.**



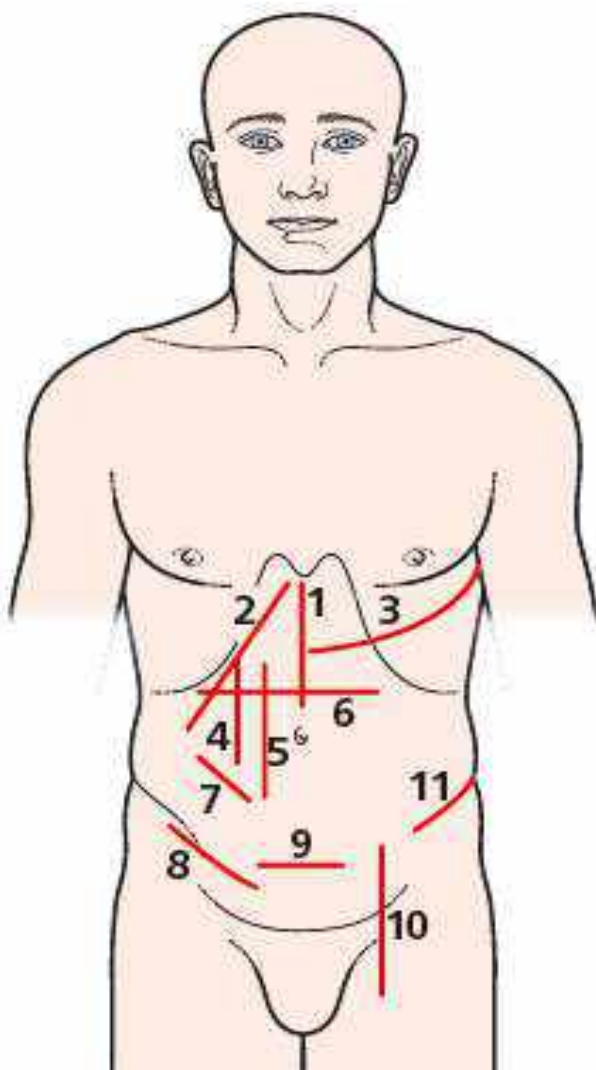
- J. right upper quadrant** (ventriculoperitoneal shunt)
- K. transverse**
- L. examples of laparoscopic incisions**
- M. Pfannenstiel incision** (common in gynaecology)
- N. bilateral subcostal** (roof top).



1. Right subcostal incision
2. Left subcostal incision
3. Upper midline
4. Right upper paramedian
5. Subumbilical
6. Left lower paramedian

7. Lower midline
8. Left thoracoabdominal
9. Rooftop (Chevron) incision
10. Upper horizontal
11. Left lumbar sympathectomy incision

12. Lower horizontal
13. Lanz incision
14. McBurney's incision
15. Pfannenstiel incision
16. Incision for inguinal hernia



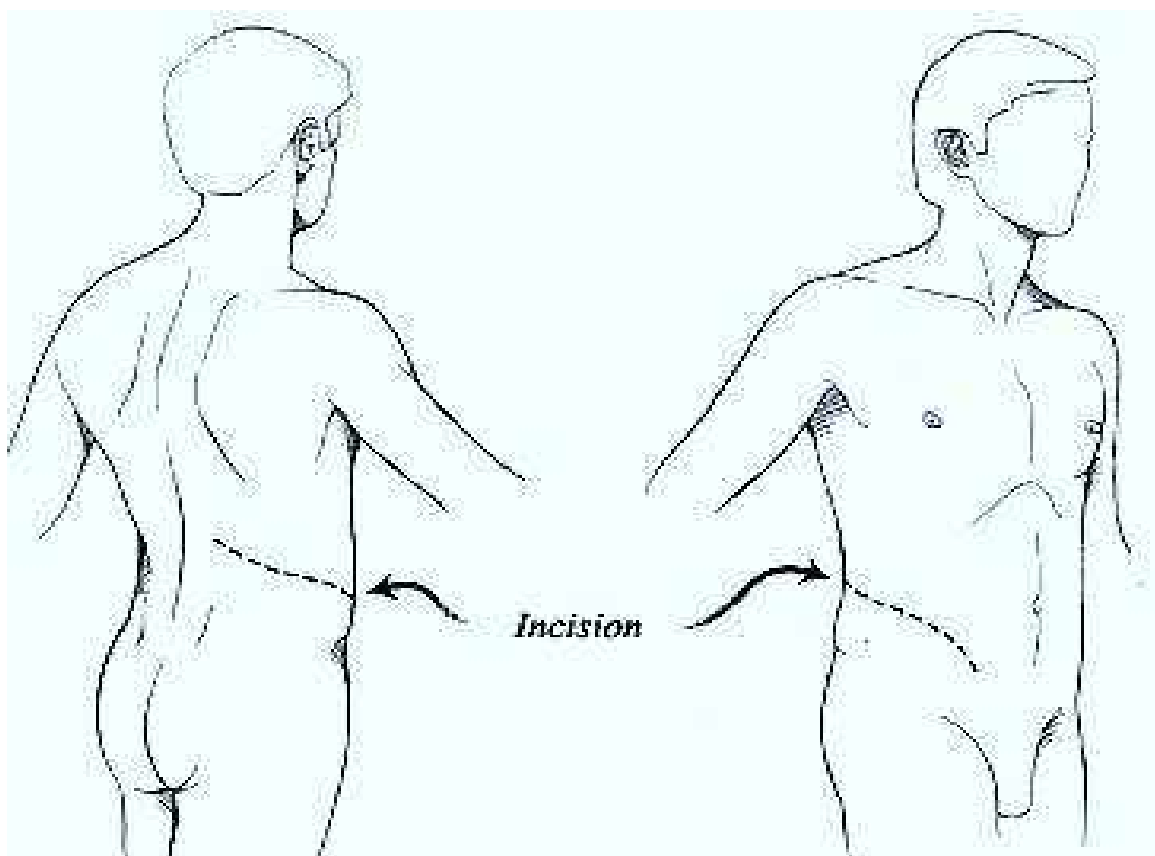
- 1, Upper Midline
- 2, Kocher's
- 3, Thoracoabdominal
- 4, Rectus Split
- 5, Paramedian
- 6, Transverse
- 7, Mcburney's Gridiron
- 8, Inguinal
- 9, Pfannenstiel
- 10, Mcevedy
- 11, Rutherford Morison.

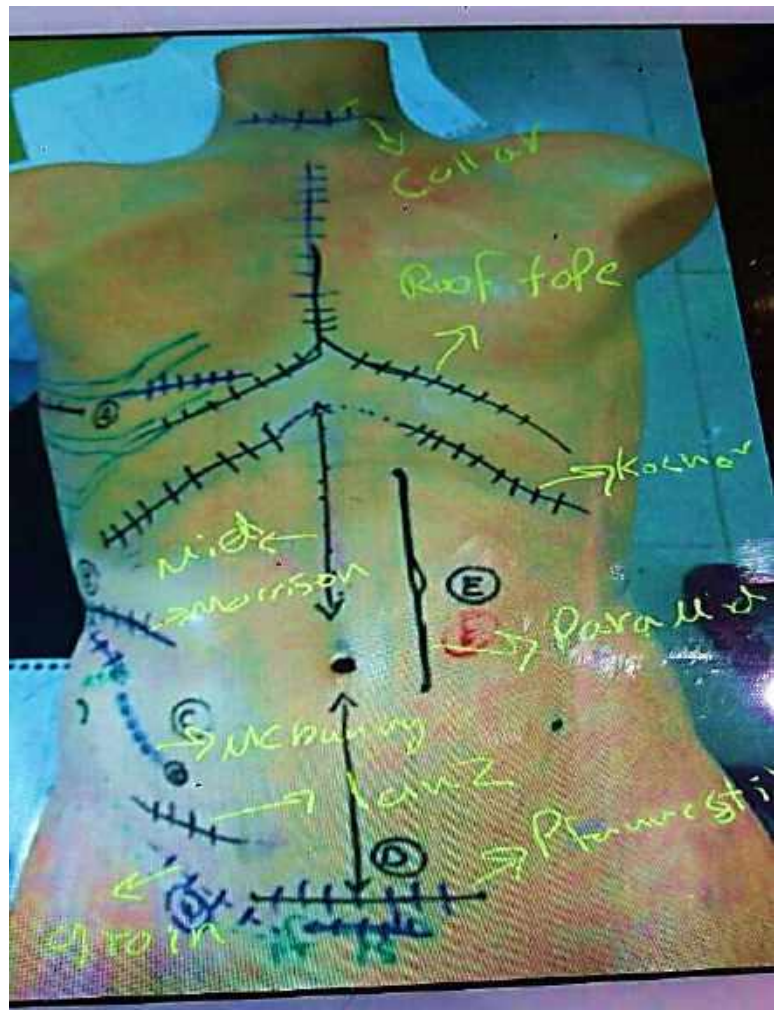
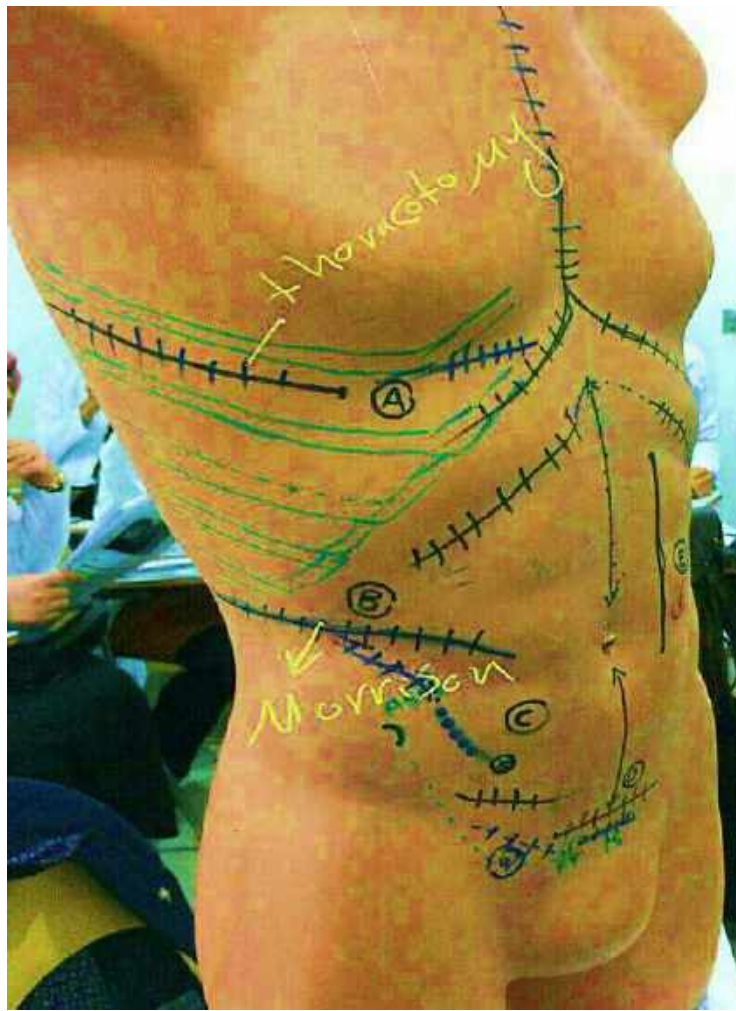
Mayo-Robson incision: This incision is typically a paramedian incision, but which bend towards the xiphoid process and consequently allows for a larger and wider opening.

Mayo-Robson incision

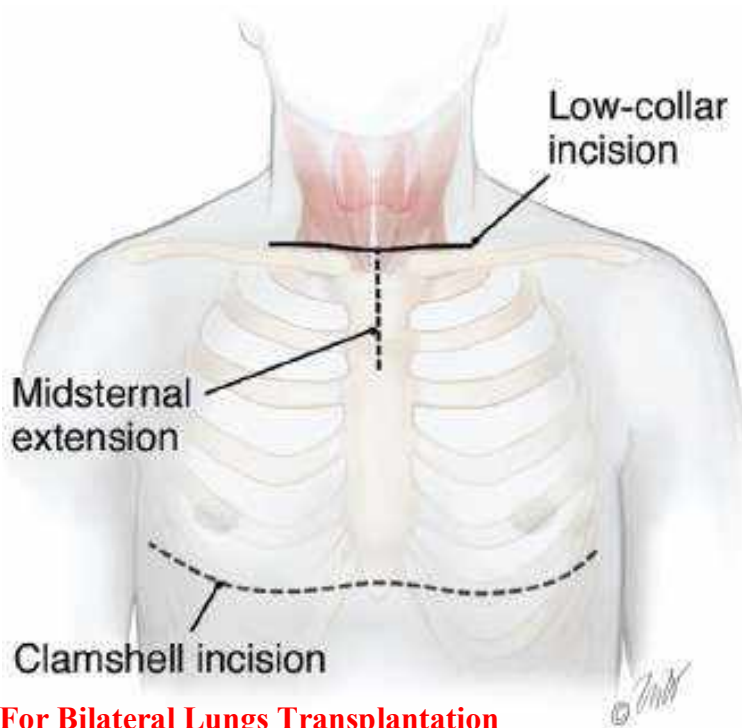


Rutherford-Morison incision: similar with the Gridiron incision but the surgeon extends the incision into an oblique and curvilinear orientation, facilitating access to the ascending colon and sigmoid; also used for kidney transplantation and renal surgeries





Extra-Abdominal Incisions



For Bilateral Lungs Transplantation



Collar incision: for thyroid and parathyroid surgery

Indications of Incisions

Midline Incision :

- vagotomy
- jejunostomy
- gastrectomy
- pancreatomy
- hysterectomy
- cystectomy
- cystotomy
- Salpingo-oophorectomy

Paramedian:

Right

- cholecystectomy
- pyeloplasty

Left

- splenectomy
- Pancreatectomy

Transverse & oblique

Kocher

- cholecystectomy
- Hepatectomy

Chevron(rooftop)

- gastrectomy
- esophagectomy
- adrenalectomy

Mercedez benz

liver transplant
pancreatic transplant

Mc Burney

appendectomy

Rutherford-morison

caecostomy
sigmoid colostomy
nephrectomy
renal transplant

Pfannestiel

caesarean section
hysterectomy
prostatectomy
cystectomy

Thoracoabdominal

Left

resection of lower end of
esophagus and proximal
portion of stomach

Right

elective and emergency hepatic
resection

Further Information

1. Midline incision: Almost all abdominal incisions can be performed using this technique. Starting from the midline of the abdomen, it can extend all the way down to the umbilicus.

Advantages:

- a) Minimal blood loss
- b) Minimal nerve injury
- c) Minimal muscle injury

Disadvantage:

- a) Midline scar

2. Paramedian incision: This technique provides more laterality to midline incisions, allowing access to such lateral organs such as spleen, kidney and adrenals.

Advantages:

- a) Easy access to lateral structures
- b) Closure between incisions in anterior and posterior sheath is more secure
- c) Rectus muscle remains undivided

Disadvantages:

- a) More time consuming
- b) Difficulty in extension
- c) Can result in atrophy of the muscle

3. Transverse incision: This type of incision is made just above the umbilicus, and can dissect either one of the rectal muscles.

Advantages:

- a) Least amount of pain and damage
- b) Muscular segments can be reattached
- c) Easier access to upper GI structures

Disadvantages:

- a) Limited lateral access
- b) Higher risk of wound infections

4. Subcostal incision: Also referred to as the Kocher subcostal incision, this type of incision starts from the midline and runs parallel to the costal margin. A double Kocher incision is known as a rooftop or Chevron incision and allows for access to the esophagus, kidney, stomach and liver. The Mercedes incision is yet another variant, characterized by a vertical incision from the rooftop incision to form the shape of a Mercedes sign.

Advantages:

- a) Heals faster
- b) Less risk of post-operative complications

Disadvantage:

- a) Lengthy and time consuming

5-Oblique incisions

They are also known as Thoracoabdominal incisions, these incisions may either be situated in the RUQ or LUQ. They provide entry to the liver, lungs and spleen, as well as to the stomach and esophagus.

ونسألكم الدعاء

Surgical Instruments



**Created by Dr.Ahmed Emad Alkhafaji (M.B.Ch.B)
university of jabir ibn hayan**

All Of Informations Collected From Surgical Remix & Lecture Of Dr.Ali Alnajim (FACS ,FICMS,DS,MBCHB) university of jabir ibn hayan. And From Different Surgical Website .

Foley's catheter

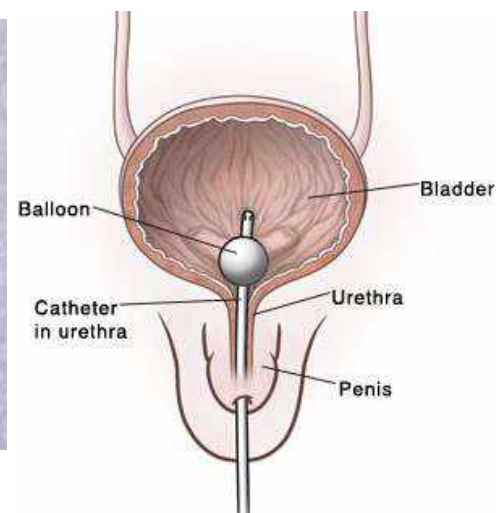
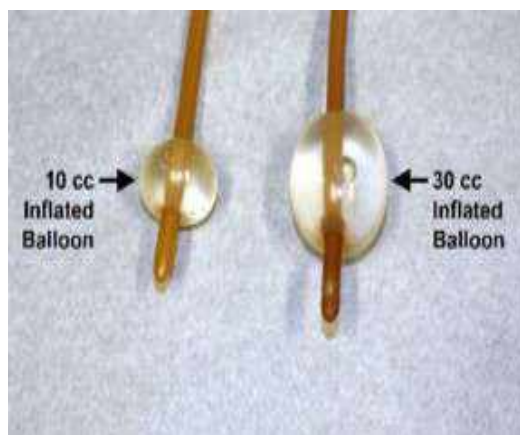
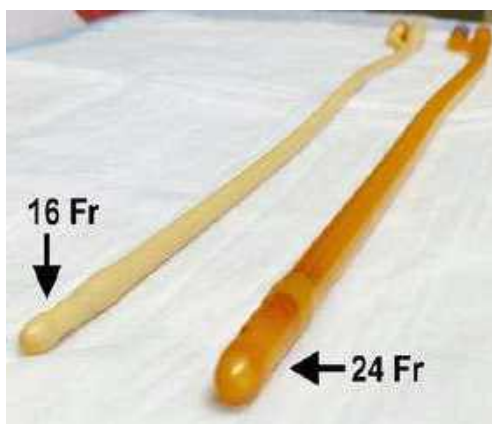
Foley's catheter is latex, polyurethane, or silicone tube is inserted into the patient bladder to drain urine . Because it can be left in place in the bladder for a period of time, it is also called an **indwelling catheter**.

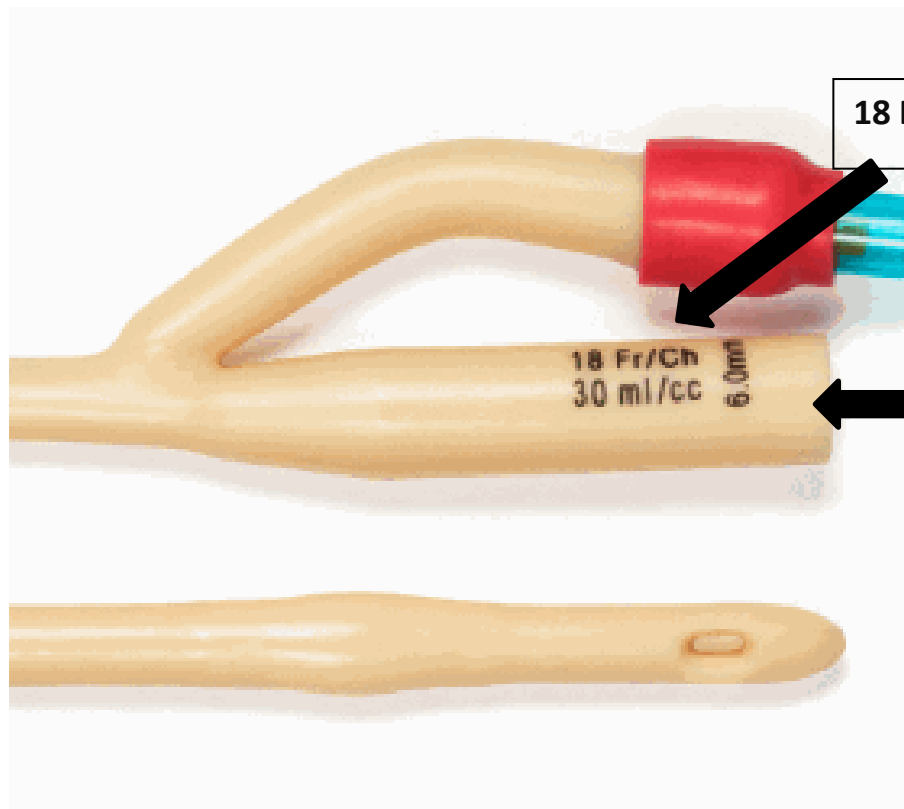


Size of foleys catheter

In general, urinary catheters range in size from 8Fr to 36Fr in diameter. 1 Fr is equivalent to 0.33 mm. For example (12Fr = 4mm) (30 fr =10 mm).

It is held in place with a balloon at the end, which is filled with sterile water (range from 5 cc to 30 cc)to prevent the catheter from being removed from the bladder .

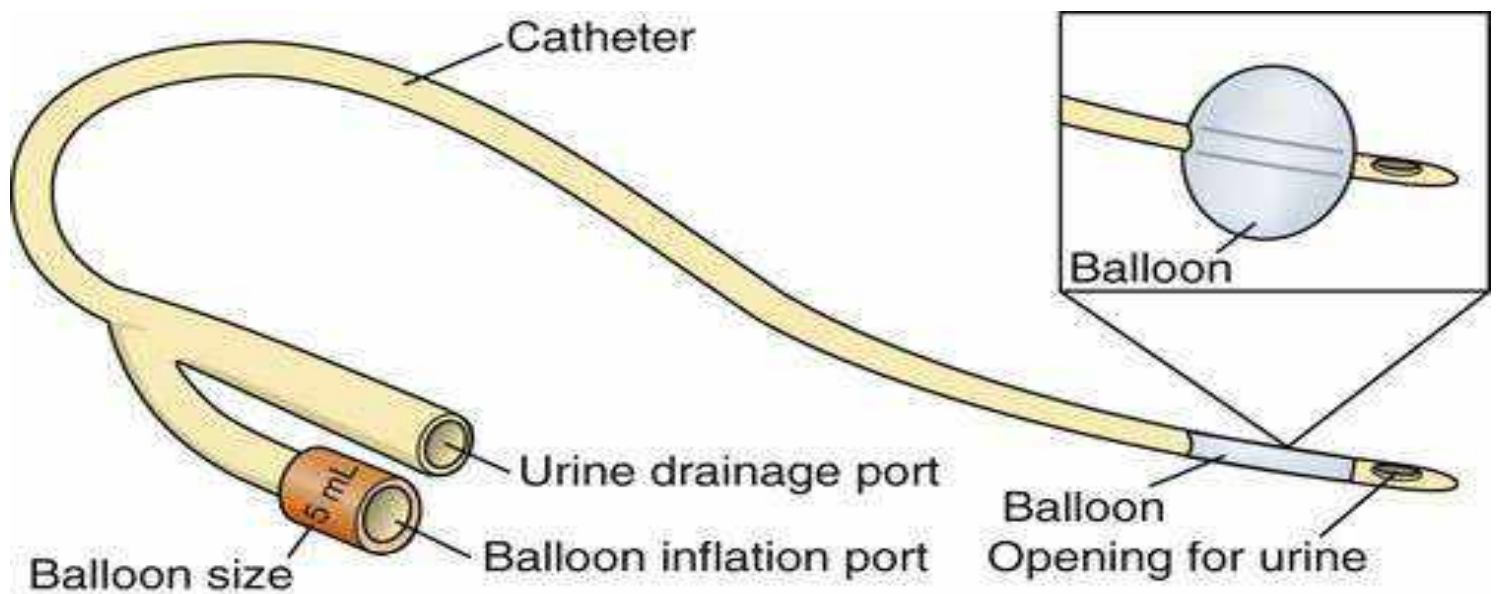




18 Fr mean the size which equal to 6 mm

30 cc This mean how much fluid needed to inflate balloon

Parts of Foley's catheter



Indications of Foley's catheter

Diagnostic Indications

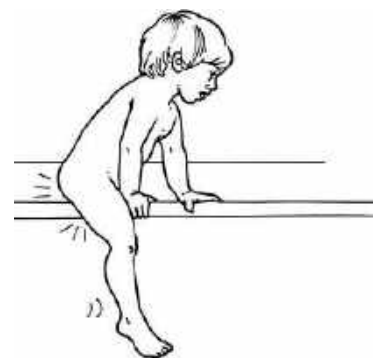
1. Collection of urine sample.
2. For measuring the urine output.
3. Imaging of urinary tract.
4. Micturating cysto-urethrogram and measurement of the intravesical pressure.

Therapeutic Indications

- 1-Acute urinary retention (eg, benign prostatic hypertrophy, blood clots)
- 2-Chronic obstruction that causes hydronephrosis
- 3-Initiation of continuous bladder irrigation
- 4-Intermittent decompression for neurogenic bladder
- 5-Hygienic care of bedridden patients
- 6-In all pelvic and peritoneal operations for emptying the bladder.

Contraindications

- 1-Traumatic injury to the lower urinary track, like **urethral tear**.
This condition may be suspected in male patients with a pelvic or straddle-type injury. Signs that increase suspicion for injury are a high-riding or boggy prostate, perineal hematoma, or blood at the meatus. When any of these findings are present in the setting of possible trauma, a retrograde urethrogram should be performed to rule out a urethral tear prior to placing a catheter into the bladder.
- 2-Local urethral sepsis.
- 3-Highriding or detached prostate.



Complications of Foley's Catheter

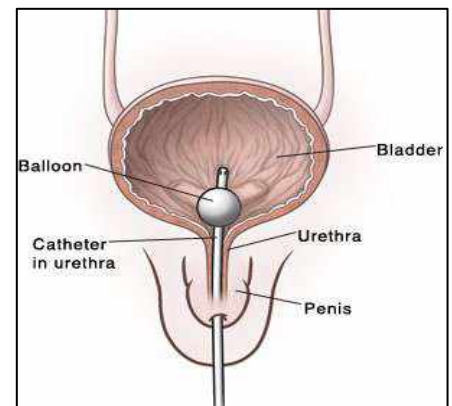
1. Inability to catheterize.
2. Infection (urethritis, cystitis, pyelonephritis, and transient bacteremia)
3. Urethral injury(Urethral perforation)
4. Urethral stricture may develop when the catheter is introduced rapidly and forcefully.
5. Psychological trauma.
6. Paraphimosis, due to failure to return foreskin to normal position following catheter insertion.
7. Hemorrhage.
8. Creation of false passages

There are some **non-infectious** complications of short-and long-term catheterization include
A-accidental removal B-catheter blockage C-gross hematuria D- urine leakage.

Further informations

Why we inflate inflate balloon with fluid not with air ?

To Allow The Balloon To Descend down Rather Than Floating in water (urine in bladder)



DURATION OF CATHETERIZATION

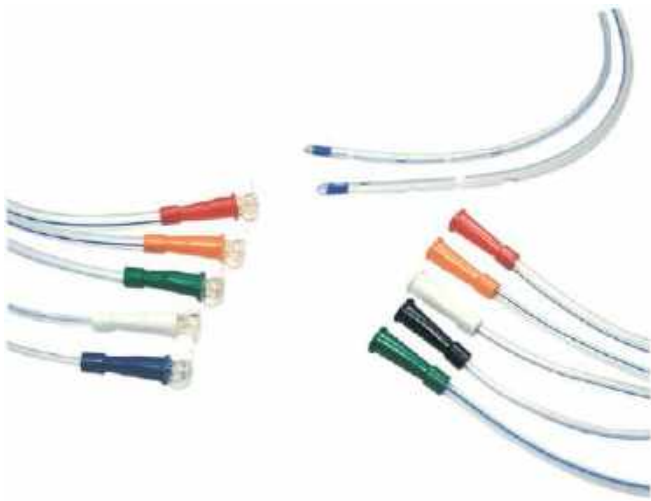
7-10 days and if for 1 month, the silicon catheter is used.

Nasogastric tube (NG tube)

Gastric intubation via the nasal passage, i.e. nasogastric route, is a common procedure that provides access to the stomach for diagnostic and therapeutic purposes.

Types of Nasogastric tube (NG tube)

1. Ryle's tube, 1 meter length.



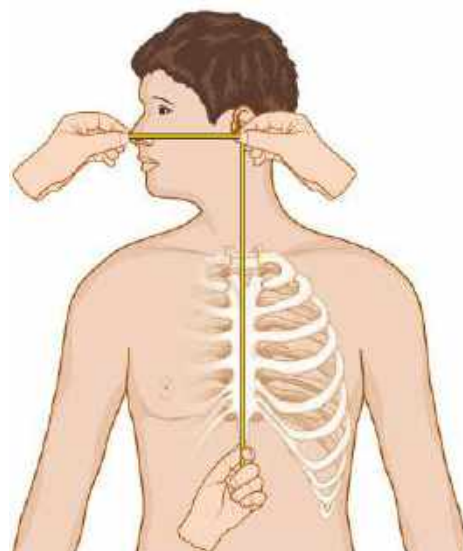
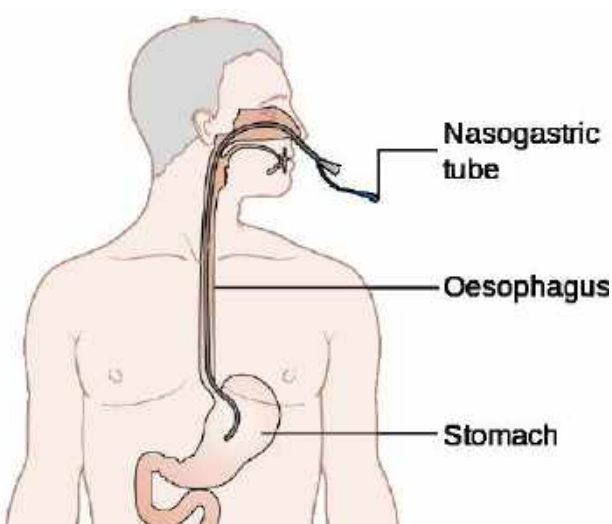
2. Levine's tube. 120 cm length.



3. Polyethylene N/G tube.

What are the landmarks for measuring the length of NGT needed to reach the patients stomach?

Bridge of nose to earlobe to xiphisternum—usually approximately 55-65cm in an adult.

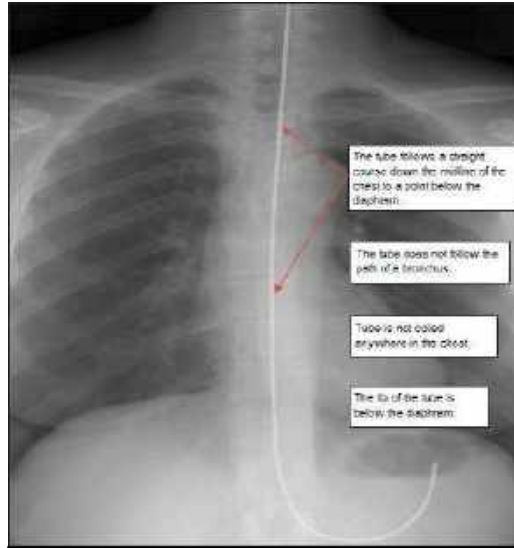


How can you confirm true placement of NGT in stomach ?

1. Aspiration of gastric juice.
2. Injection air into the tube by a syringe and auscultation the epigastrium, & gurgling sound is heard.
3. By X-rays, as the tube has a radio-opaque line.



Properly placed NG TUBE



Properly placed NG TUBE



NG tube in lower lobe of right lung with infiltration.

Indications Nasogastric Tube (NG Tube)

Feeding purposes

NICE guidelines state that NG tubes should only be used in people who are malnourished or at risk of malnutrition and have one of the following :

- 1-Inadequate or unsafe oral intake.
- 2-Neurological conditions causing dysphagia/unsafe swallow such as stroke.
- 3- Following upper gastrointestinal surgery where a high anastomosis must be protected in the initial post-operative period
- 4-Occasionally, NG feeding is used to prepare malnourished patients for major abdominal surgery in the pre-operative period.

In general, enteral tube feeding is only advised for up to 4 weeks.

Diagnostic purposes

1. Hollander's test, by aspirating the gastric contents for acid studies after vagotomy.
2. Pyloric stenosis diagnosis, if the volume of total gastric aspiration after a period of 12 hrs fasting exceeds 200 cc, so there is pyloric stenosis.
3. To know the rate of the gastric hemorrhage and its response to treatment.
4. To collect the gastric lavage for acid fast bacillus.
5. Identification of the esophagus and stomach on chest radiography.
6. Administration of radiographic contrast to the GI tract.

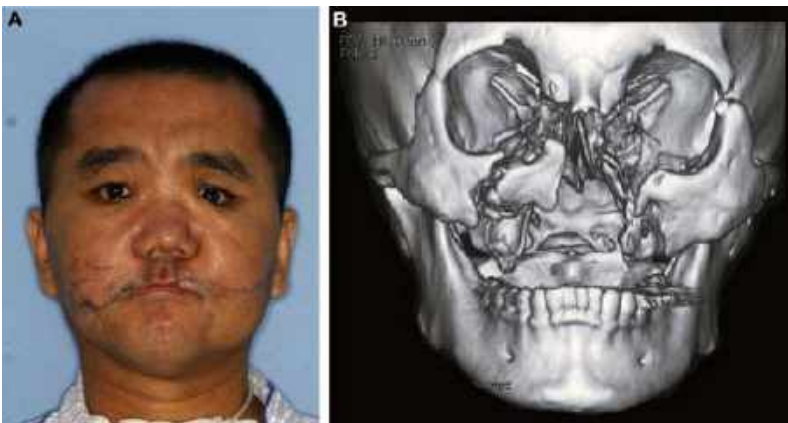
Therapeutic purposes

1. Gastric decompression
2. In gastric lavage.
3. Administration of medication.
4. Acute intestinal obstruction (preoperatively) to relieve the distention, to decrease any chances of aspiration and Postoperatively, removing it only when the patient passes flatus.
5. Acute peritonitis, as it causes paralytic ileus.
6. Postoperatively in bowel operation to avoid acute gastric dilatation.
8. Bowel irrigation.

Contraindications of NG tube

Absolute contraindications

1. Severe midface trauma.



2. Recent nasal operation.



Relative contraindications:

1. Coagulation abnormality.
2. Recent banding or cautery of esophageal varices.
3. Alkaline ingestion (due to risk of Esophageal rupture)
- 4-Esophageal stricture

Complications of NG tube

during introduction of the tube:

1. Injury to the upper respiratory tract and bleeding.
2. Inserting into the trachea leading to aspiration pneumonia,
3. Trauma to the pharynx and esophagus.
4. Gagging or vomiting.
5. Epistaxis.
6. Esophageal perforation (rare).
7. Laryngospasm.
8. Hypoxia.
9. Bradycardia.

Complications during staying in the stomach:

1. Obstruction.
2. Water and electrolytes imbalance, like hyponatremia, hypochloremia, or water intoxication.
3. Damage to the mucosa.
4. Increasing gastro-esophageal reflux.
5. Dryness of the mouth.
6. Peritonitis.

Complications during removing the tube:

1. Inhalation pneumonia.
2. Kinking of the tube.

When should you stop advancing the NGT ?

- On reaching the measured distance.
- if the tube emerges in the oral cavity.
- if the patient experiences respiratory distress or inability to speak.
- nasal haemorrhage.
- significant resistance.

What are the prerequisites for use of NGT to feed are stipulated by the NICE guidelines?

- Malnourished or at risk of malnutrition;
- inadequate or unsafe oral intake;
- functional and accessible gastrointestinal tract.

Redivac drainage

Redivac drains is one of closed active drain which generate active suction by a high negative pressure drain

Used to drain blood and fluid beneath the skin for example :

- After mastectomy
- After thyroidectomy
- Lymph node dissection
- From deep space (around vascular anastomosis)
- Orthopedic, and plastic operations.
- Repair of incisional hernia



Complication of Redivac

1. Allergic tissue reaction.
2. Trauma during insertion.
3. Soft tissue bleeding due to injury to a small blood vessel.
4. Infection.
5. Slipping of the drain inside the wound or the abdomen.
6. Obstruction or kinking of the tube.
7. Herniation through the opening if so large.
8. Fracture of the drain during the removing (retained fragment)
9. Failure to drain adequately due to:
 - Incorrect placement.
 - Too small size tube.
 - Blood clot in the lumen.

ونسألكم الدعاء

Examination of ulcer



**Created By Dr.Ahmed
University Of Jabir Ibn**

**Emad Alkhafaji (M.B.Ch.B)
Hayan College Of Medicine**

An ulcer is a persistent discontinuity of an epithelial surface that can occur in the skin or in the mucosa of the alimentary and respiratory passages. ulcer occurs due to many causes like trauma, vascular, neuropathic, metabolic causes, malnutrition, neoplasia, inflammation, infection and other miscellaneous causes.

How To Take History About Ulcer

- 1-Duration of ulcer
- 2-When it first noted ?
- 3-what is the first symptom of ulcer ?
- 4- progression of ulcer ? Increase in size or decrease ?
- 5- other symptoms ?
- 6-Is the ulcer persist ?or disappear ?
- 7-what about multiplicity ? يعني موجوده بمنطقة وحده؟ لو كلساع تطلع بغير مكان...وباقى بمكانه لو انتشر
- 8-ask patient what do you think about the cause? In rural area bite of sand flies lead to **leishmaniasis ...!!**
- 9- History about concomitant illness (diabetes, IHD, HTN ,neurological disease)

Examination of ulcer

The same steps of examination of lump except few information mentioned below.
Note The **S**ite, **E**dge, **B**ase And **S**urrounding Tissues (**'SEBS'**)

1-Site Of Ulcer

The site of the ulcer is usually characteristic for example :

Venous ulcers : Venous ulcers are sited just above the malleolus.

Arterial ulcers: They are situated distally, that is, over the tips of the toes and between the toes, where the pressure is lowest, and over the malleoli and heels where minor pressure.

Diabetic ulcers : The most common site for a diabetic ulcer is therefore over the heads of the first and second metatarsals.

Malignant ulcers : for example, rodent ulcers (basal cell carcinomas) occur on the upper part of face



venous ulcer.



arterial ulcer caused by ischaemic pressure on the heel



Ischaemic ulcer of the great toe in a diabetic Patient.

2-Edge Of Ulcer

1-Sloping edge: The best examples are healing, traumatic and ischaemic venous ulcers.



Sloping
(a healing ulcer)

2-Punched-out edge: syphilitic, trophic, diabetic, ischaemic and leprosy ulcer.



Punched-out
(syphilis, trophic)

3-Undermined edge: TB spreads in and destroys the subcutaneous tissues faster than it destroys the overlying skin. This type of ulcer can occur in pressure necrosis.



Undermined
(tuberculosis)

4-Rolled edge: is typical of a basal cell carcinoma and develops when disease becomes necrotic at its centre but grows quite quickly at its periphery



Rolled
(basal cell carcinoma)

5-Everted edge: This appearance is typical of the squamous cell carcinoma and the ulcerated adenocarcinoma. the growing portion at the edge of the ulcer heaps up and, in its malignant exuberance, spills over the normal skin to produce an everted edge.



Everted
(squamous cell carcinoma)



An undermined ulcer of the buttock due to pressure



A punched-out ischaemic ulcer over the dorsum of the foot.



A rodent ulcer of the face. rolled edge is present at some points on its circumference.



A healing, granulating ulcer with sloping edge



A rodent ulcer of the nose.



The raised and inverted edge of a carcinoma of the forearm.

3-Base Of Ulcer

In the base, note the **depth**, the **covering** (the floor) and any **discharge**.

1- depth:

Shallow (2mm)
Deep (about 1cm)

2- Covering Of Ulcer

The base is likely to consist of three types of tissue

Granulation.tissue:it is the first stage of the healing process

Dead tissue : This is called a slough. When a slough separates, it may expose healthy tissues, which then become covered with granulation tissue or tissue becoming involved in the ischaemic process.

Tumour: The base of a squamous cell carcinoma is the malignant tissue itself. It may be slightly vascular or necrotic but does not develop healthy granulation tissue.

3-Discharge?

Serous (occure in healing ulcer)
Slough (dead material mostly in ischemia
Serosagenous (infection)
Pus (infection and mostly bacterial)



A malignant ulcer. Note the dead tissue over its base, with no evidence of granulation formation.



Healthy granulation of an ulcer over the medial aspect of the ankle



Slough in the base of a deep leg ulcer.



Eschar following shin trauma.

4-Surrounding Tissue

- 1-Pigmentation is common around a venous ulcer, and the surrounding skin may be scarred from previous ulceration.
- 2-It is essential to examine for local and more distant nodal involvement by the disease process.
- 3-If the prime aetiology of the ulcer is neuropathic, there is sensory loss over the adjacent skin, and reduced sweating in an autonomic neuropathy.
- 4-Induration of the surrounding tissues is seen particularly in the inflammatory response to infection, trauma and malignancy, or it may be from direct invasion in a malignant process.
- 5-Blood vessels may be prominent, with an increase in blood supply and venous drainage in an inflammatory response.

5-checking pulse distal to ulcer and tenderness of ulcerative lesion

painless ulcer occur in Leshmaniasis and Neuropathic ulcer

Further Informations

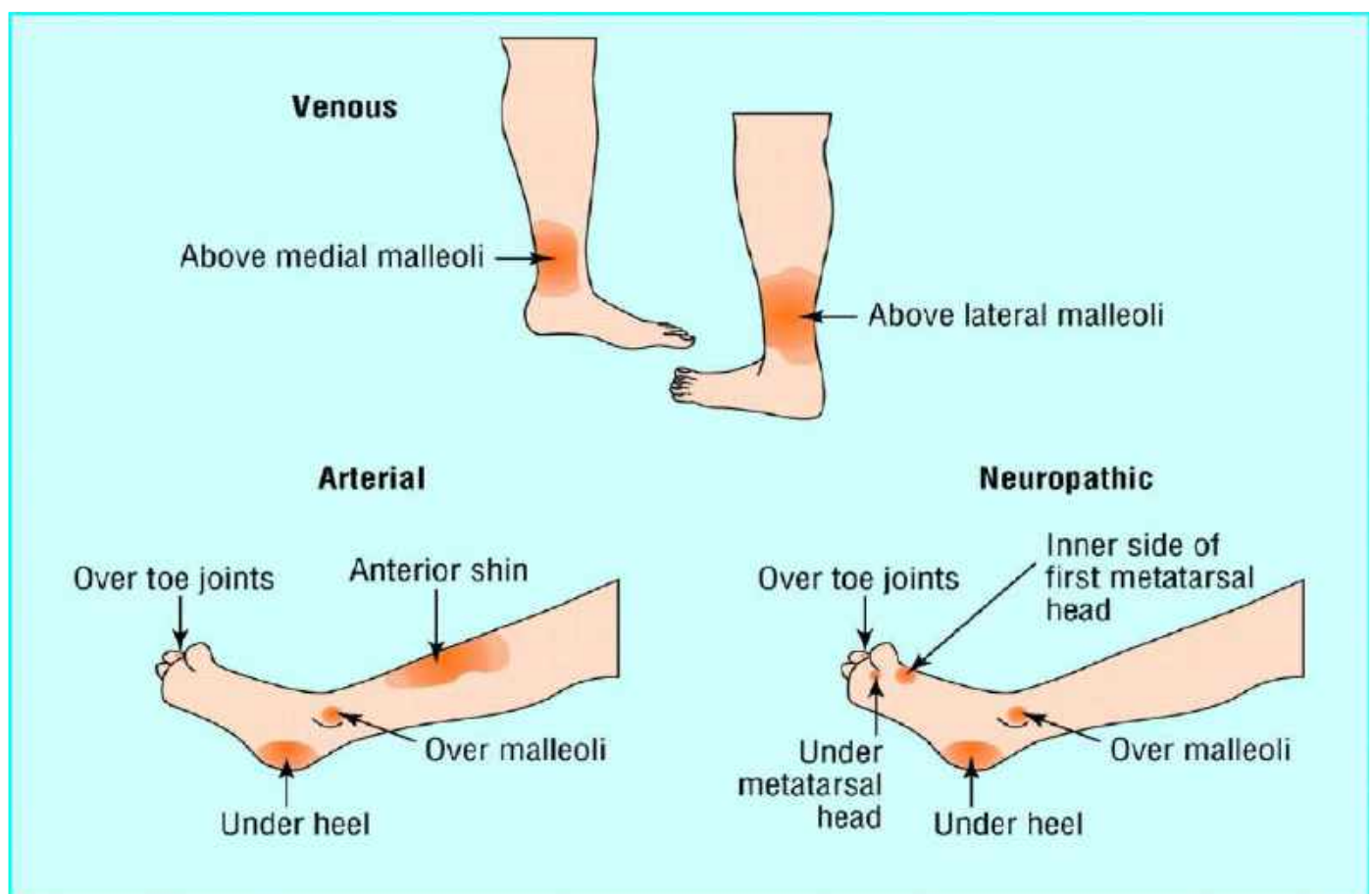
Why Diabetics are liable to develop foot ulcer ?

- 1-Ischemic cause (atherosclerosis)
- 2-Neuropathic cause (↓ pain sensation so ↑ trauma)
- 3-Immunological cause (↓ Immunity)
- 4- Tissue are rich in sugar so liable to infection

Important point that should be checked in patient with diabetic ulcer

- 1-tenderness and pain sensation
- 2-checking pulse
- 3-check proprioception
- 4-any autonomic problem ?impotence , neurogenic bladder
- 5-checking retina (using ophthalmoscope)

Common site to develop ulcers



Examination

Site

Shape

Size

Flow

Depth

Edge (5 types)

1- Sloping



The ulcer is shallow & the epithelium is growing in from the edge in an attempt to heal

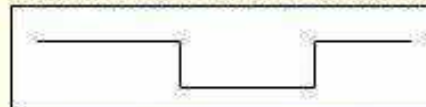


Examination

Edge (5 types)

1- Sloping

2- Punched-out



or **square cut**: It results from rapid death & loss of the whole thickness of the skin with minimal attempt of healing



Gamma of 3ry
syphilis



Leprosy



Neuropathic ulcer in the
sole of foot

Examination

Edge (5 types)

1- Sloping

2- Punched-out



Undermined edge in diabetic foot infection



Undermined edge in
Pyoderma gangrenosa

3- Undermined edge



When infection is affecting the **subcutaneous tissue more than the skin**, the edge becomes undermined



Tuberculous ulcer



Pressure bed sore in the buttock.
Subcutaneous fat is more susceptible to pressure than the skin

Examination

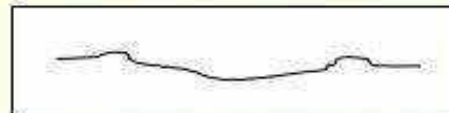
Edge (5 types)

1- Sloping

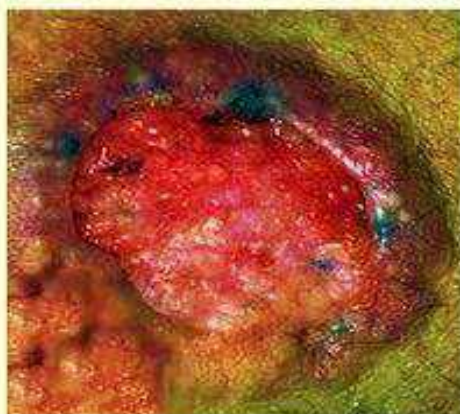
2- Punched-out

3- Undermined

4- Rolled



Develops when there is **slow growth** of tissue in the edge of the ulcer



Basal cell carcinoma (rodent ulcer):

Pale pink edge with clumps & clusters of cells visible through the paper thin superficial covering of squamous cells

Examination

Edge (5 types)

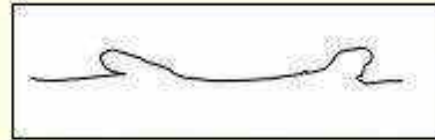
1- Sloping

2- Punched-out

3- Undermined

4- Rolled

5- Everted edge



Develops when the tissue in the edge of the ulcer is **growing quickly and spilling out** of the ulcer to overlap the normal skin.

*This edge is typical of **carcinoma** at any site*


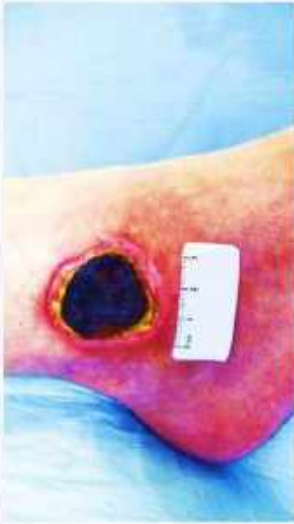




Malignant transformation in a chronic venous ulcer
"Marjulin" ulcer



Malignant ulcer colon carcinoma

	Arterial Ulcer	Venous Ulcer	Neuropathic Ulcer
Location	Toes or pressure points	Medial malleolus, Lateral/post. Calf	Sole of foot or bony prominences
Appearance	Irreg. margin, pale, cyanotic	Well-demarcated but irreg. margin, red base, exudative	"Punched out" appearance, red, often deep, infected
Foot Temp	Cool and dry	Warm	Warm and dry
Pain	Present, sometimes severe	Mild	Absent
Pulses	Absent	Present	+/-
Veins	Collapsed	Dilated, varicose, telangiectasias, reticular	Dilated
Sensation	Variable	Normal	Absent (no vibr sense)
Ulcer w/in callous	No	No	Often
Foot deformities	No	No	Often
Skin changes	Shiny, taut	Reddish-brown pigmentation, atrophie blanche	Shiny, taut, or doughy

Feature	Ulcer Type			
	Venous	Arterial	Neuropathic Diabetic	Pressure
Underlying condition	Varicose veins, previous deep-vein thrombosis, obesity, pregnancy, recurrent phlebitis	Diabetes, hypertension, smoking, previous vascular disease	Diabetes, trauma, prolonged pressure	Limited mobility
Ulcer location	Area between the lower calf and the medial malleolus	Pressure points, toes and feet, lateral malleolus and tibial areas	Plantar aspect of foot, tip of the toe, lateral to fifth metatarsal	Bony prominences, heel
Ulcer characteristic	Shallow and flat margins, moderate-to-heavy exudate, slough at base with granulation tissue	Punched out and deep, irregular shape, unheal- thy wound bed, presence of necrotic tissue, minimal exudate unless infected	Deep, surrounded by cal- lus, insensate	Deep, often macerated
				
Condition of leg or foot	Hemosiderin staining, thickening and fibrosis, eczematous and itchy skin, limb edema, normal capillary refill	Thin shiny skin, reduced hair growth, cool skin, pallor on leg elevation, absent or weak pulses, delayed capillary refill, gangrene	Dry, cracked, insensate, calluses	Atrophic skin, loss of muscle mass
Treatment	Compression therapy, leg elevation, surgical management	Revascularization, anti-platelet medications, management of risk factors	Off-loading of pressure, topical growth factors	Off-loading of pressure; reduction of excessive moisture, shear, and friction; adequate nutrition

ونسألكم الدعاء

Appendicitis

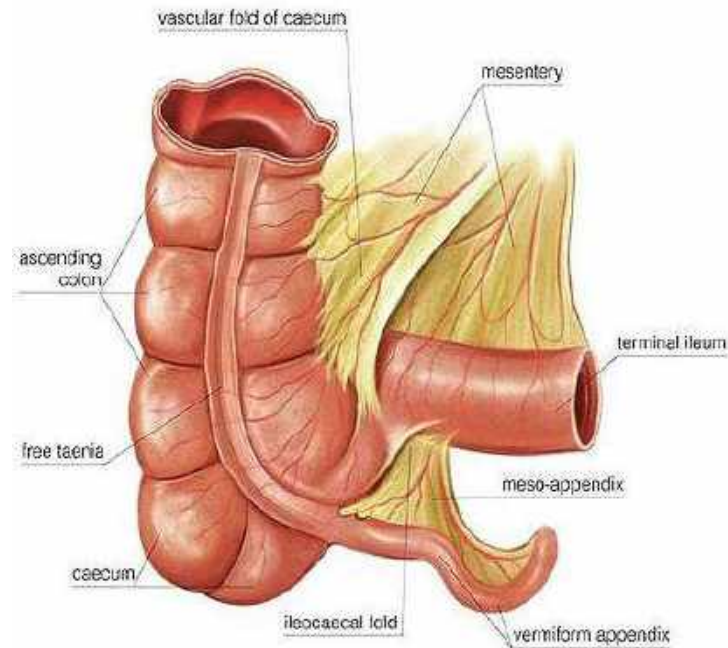


Created By Dr.Ahmed Emad Alkhafaji (M.B.Ch.B)
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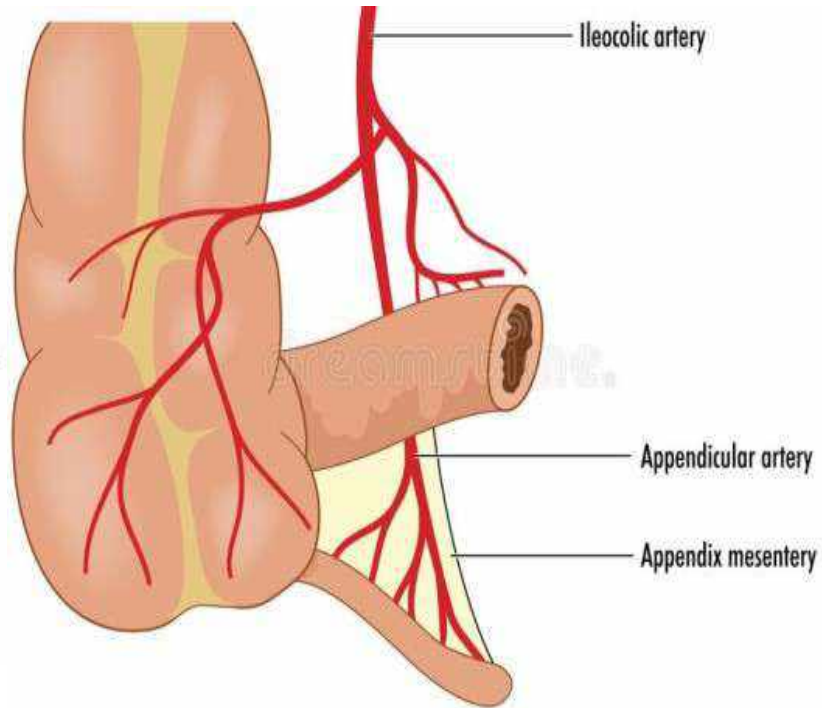
Appendix

The appendix is a narrow, finger-shaped pouch that projects out from the colon.

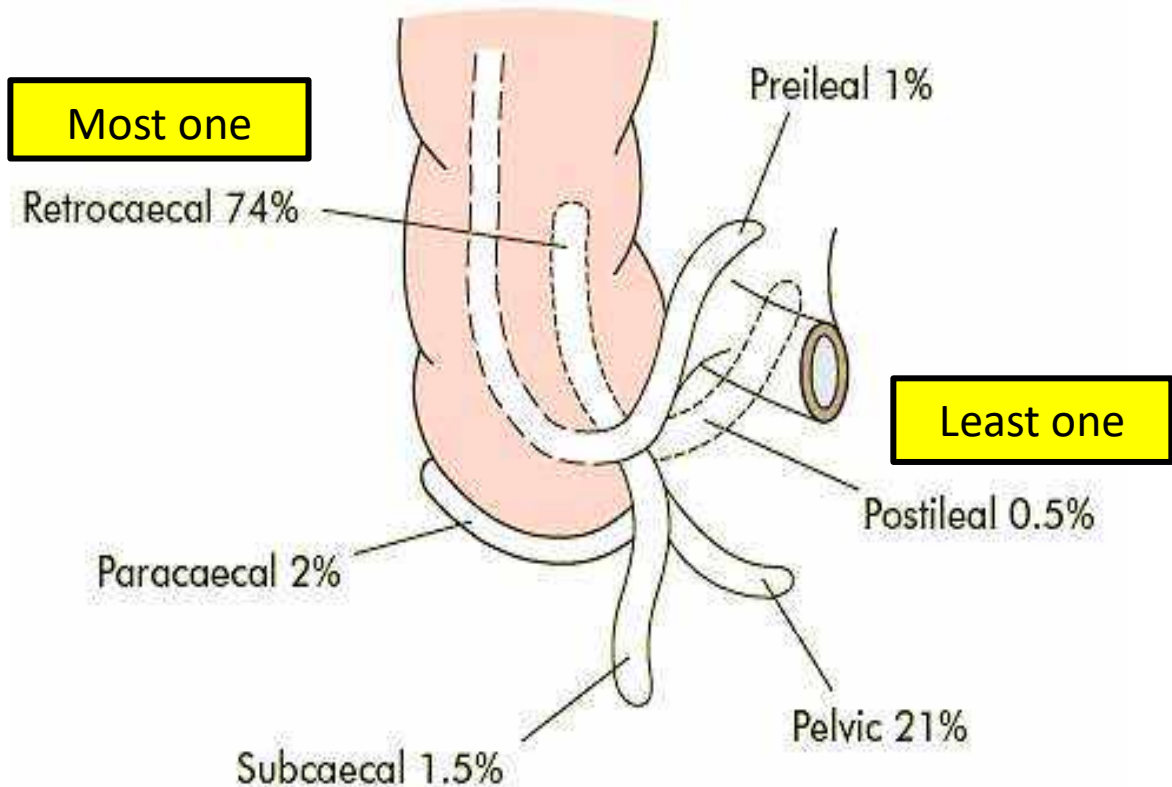
Appendicular anatomy:



Appendicular blood supply :

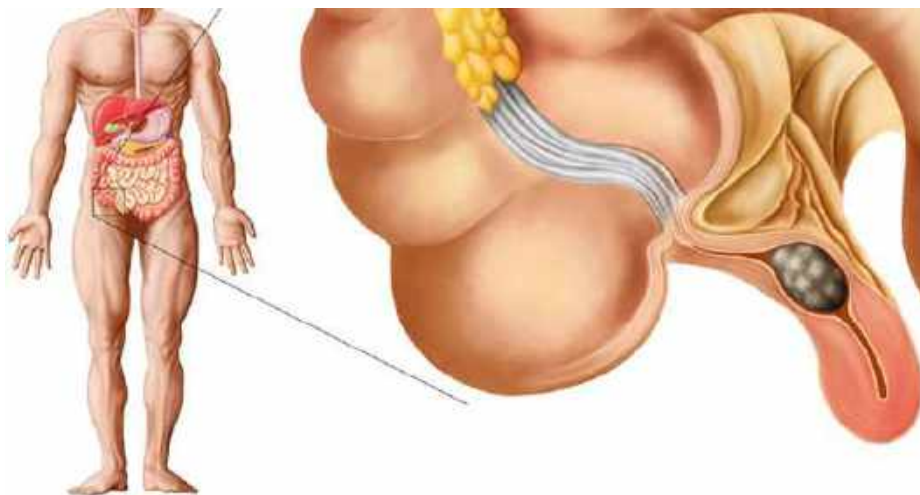


Positions of appendix:



Pathology of appendicitis

Appendicitis is thought to result from obstruction of the appendiceal lumen, typically by lymphoid hyperplasia but occasionally by a fecalith, foreign body, or even worms. The obstruction leads to distention, bacterial overgrowth, ischemia, and inflammation. If untreated, necrosis, gangrene, and perforation occur.



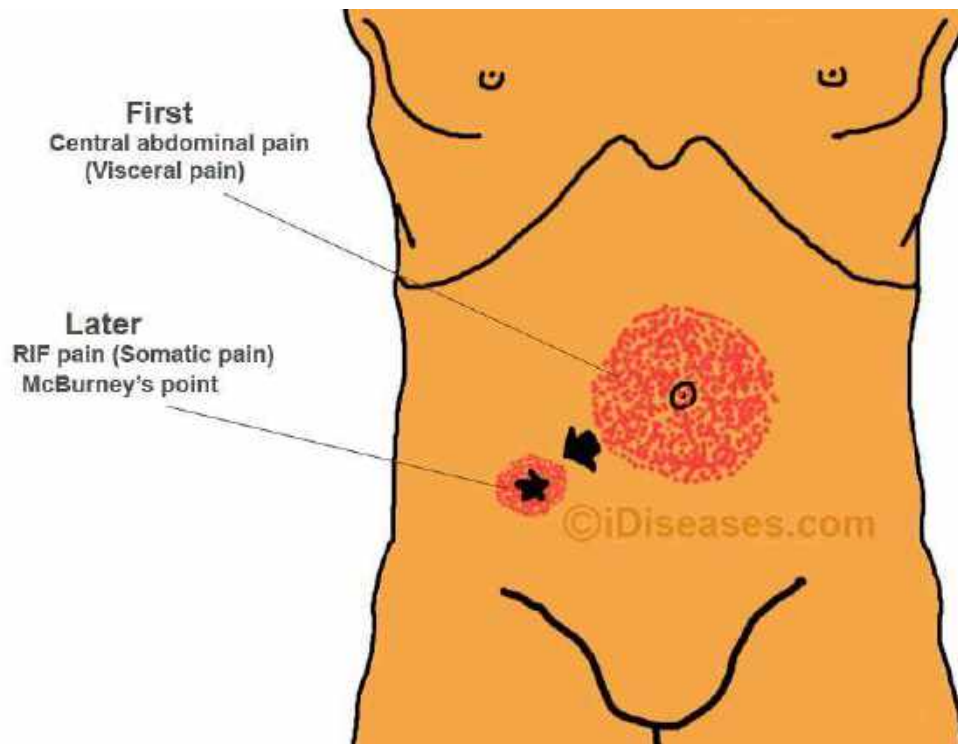
Diagnosis of appendicitis

Alvarado score (MANTRELS)

- **M**igratory pain 1
- **A**norexia 1
- **N**ausea and vomiting 1
- **T**enderness (RIF) 2
- **R**ebound tenderness 1
- **E**levated temperature 1
- **L**eukocytosis 2
- **S**hift to left 1

Clinical Implications of the Original Alvarado Score		
Score Total	Likelihood of Appendicitis	Next Steps
≤ 4	Unlikely	Evaluate for other causes
5 – 6	Possible	Observation
7 – 8	Probable	Surgery
9 – 10	Very Probable	

Nature of abdominal pain in appendicitis



Some Signs That Help In Diagnosis Of Appendicitis

- The diagnosis of acute appendicitis depends on clinical examination rather than history or investigations.
- **The main features**: unwell patient, low grade fever.
- Patient is asked to point where the pain began & to where it moved, (**pointing sign**).
- Superficial palpation starting from the left iliac fossa, anticlockwise to the right iliac fossa, will detect muscle guarding over the point of maximum tenderness, classically **McBurney's point**.
- Asking the patient to cough or gentle percussion → rebound tenderness.
- Deep palpation over the left iliac fossa → pain in the right iliac fossa (**Rovsing's sign**).
- If the appendix lies over the psoas muscle → the patient will lie with the right hip flexed for pain relief (**Psoas sign**).
- If the appendix is in contact with the obturator internus muscle, flexion & internal rotation of the hip → pain in the hypogastrium (**Obturator sign**).

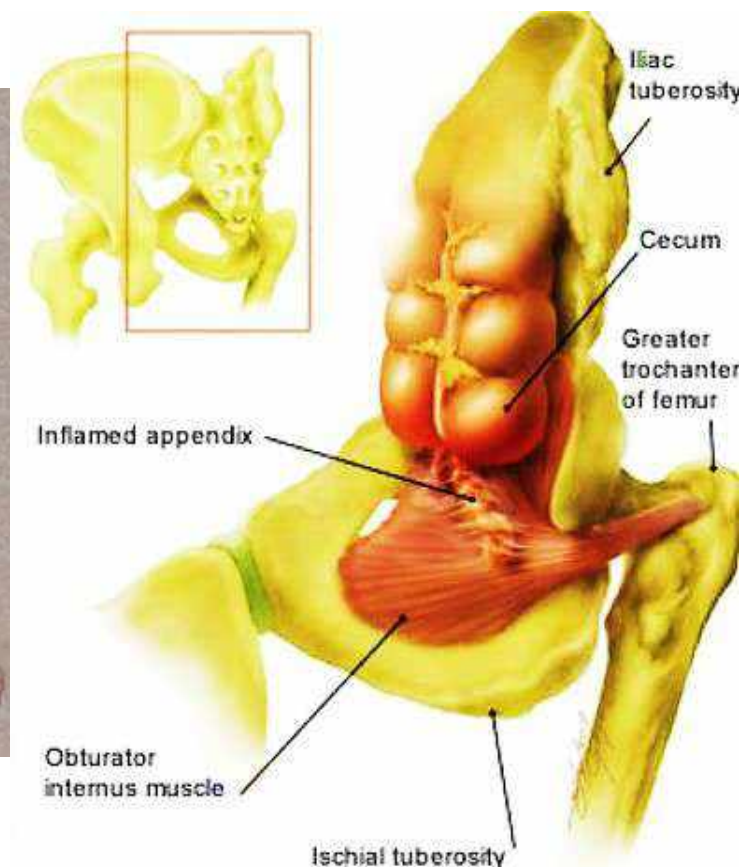
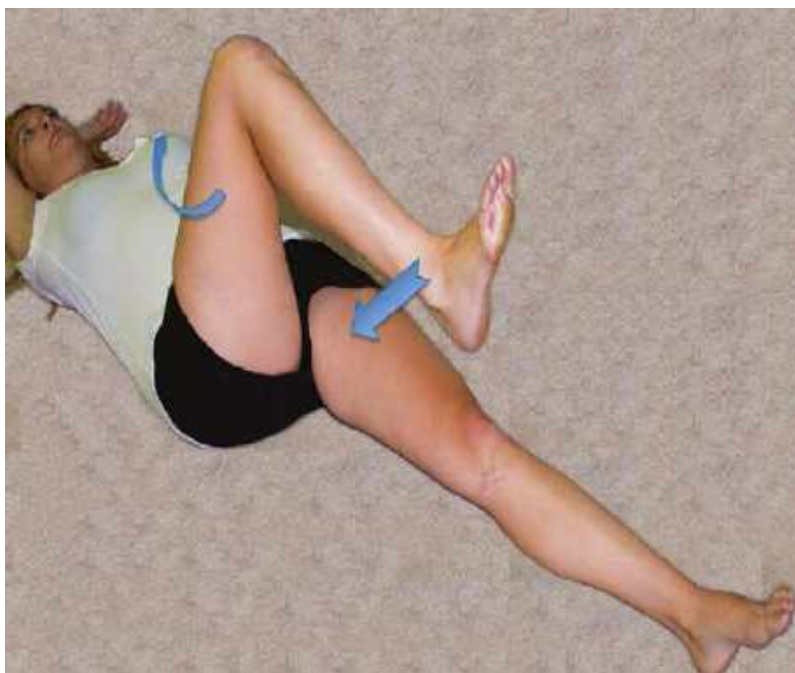
Blumberg's sign:also referred to as rebound tenderness



- Apply firm pressure for several seconds to the abdomen with hand at right angles and fingers extended
- Quickly release the pressure
- Test away from site where pain is initially determined

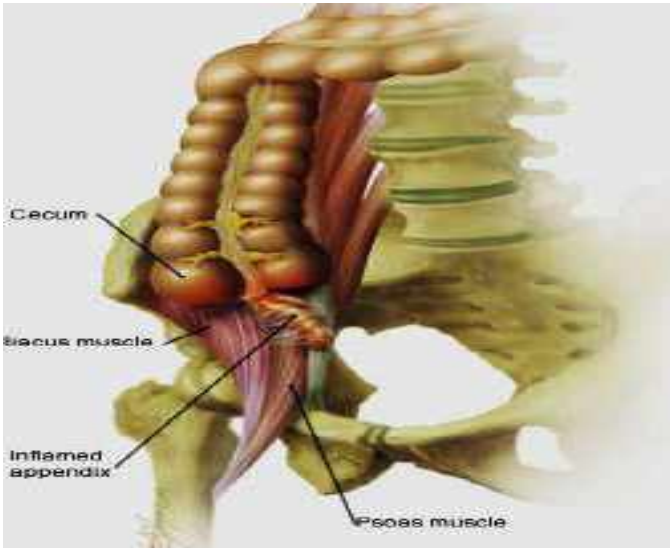
Obturator's Sign

Pain on passive internal rotation of flexed thigh .Examiner moves lower leg laterally while applying resistance to the lateral side of knee resulting in internal rotation of femur



Psoas Sign

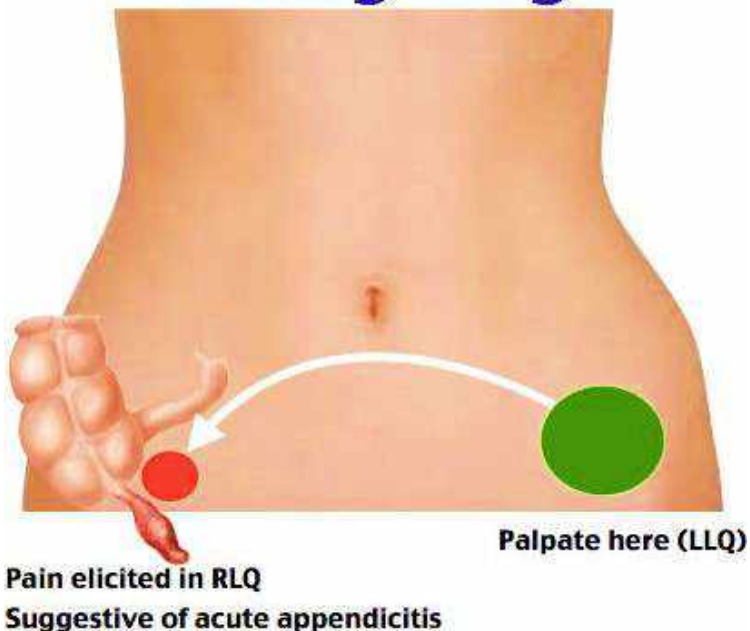
Psoas sign is right lower quadrant pain that is produced with patient extending the hip due to inflammation of the peritoneum overlying the psoas muscle and inflammation of psoas muscle themselves. Straightening out the leg cause the pain because it stretches the muscle and flexing the hip into fetal position "relieve the pain "



Rovsing Sign

Rovsing Sign :Deep palpation of LIF may cause pain RIF

Rovsing's Sign



Rovsings sign



Pointing Sign

Pointing sign: the patient is asked to point to where the pain began and where it moved



Differential diagnosis of appendicitis

Children	Adult	Adult female	Elderly
Gastroenteritis	Regional enteritis	Mittelschmerz	Diverticulitis
Mesenteric adenitis	Ureteric colic	Pelvic inflammatory disease	Intestinal obstruction
Meckel's diverticulitis	Perforated peptic ulcer	Pyelonephritis	Colonic carcinoma
Intussusception	Torsion of testis	Ectopic pregnancy	Torsion appendix epiploicae
Henoch-Schönlein purpura	Pancreatitis	Torsion/rupture of ovarian cyst	Mesenteric infarction
Lobar pneumonia	Rectus sheath haematoma	Endometriosis	Leaking aortic aneurysm

Risk factors for perforation of appendix

- Extremes of age
- Immunosuppression
- Diabetes mellitus
- Faecolith obstruction
- Pelvic appendix
- Previous abdominal surgery

Postoperative complications

Postoperative complications following appendicectomy are relatively uncommon and reflect the degree of peritonitis that was present at the time of operation and intercurrent diseases that may predispose to complications (Summary box 71.7).

Summary box 71.7

Checklist for unwell patient following appendicectomy

- Examine the wound and abdomen for an abscess
- Consider a pelvic abscess and perform a rectal examination
- Examine the lungs – pneumonitis or collapse
- Examine the legs – consider venous thrombosis
- Examine the conjunctivae for an icteric tinge and the liver for enlargement, and enquire whether the patient has had rigors (pylephlebitis)
- Examine the urine for organisms (pyelonephritis)
- Suspect subphrenic abscess

Types of incisions in appendicular surgery

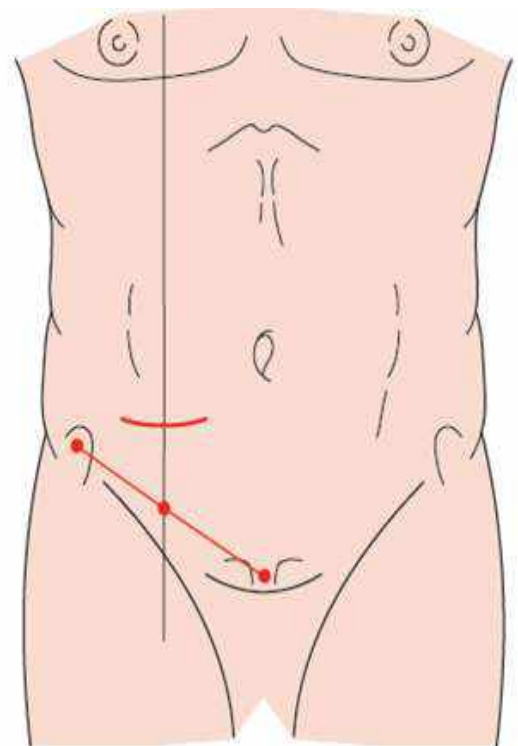
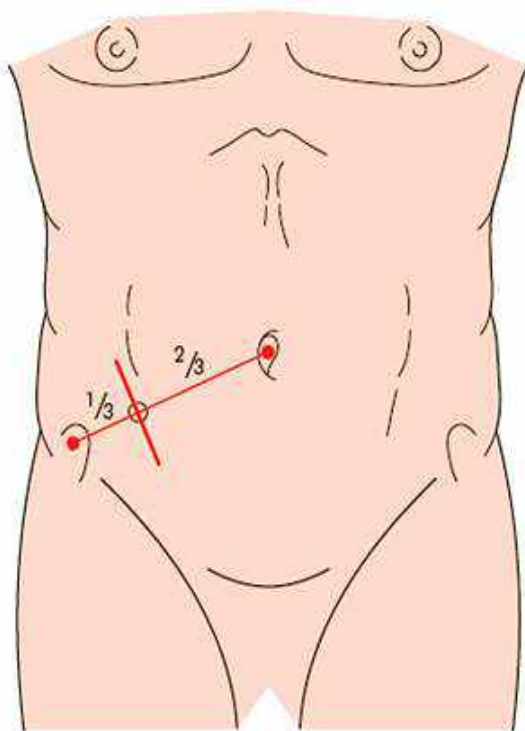


Figure 71.12 Gridiron incision for appendicitis, at right angles to a line joining the anterior superior iliac spine and umbilicus, centred on McBurney's point (courtesy of Professor M Earley, FRSCI, Dublin, Ireland).

Figure 71.13 Transverse or skin crease (Lanz) incision for appendicitis, 2 cm below the umbilicus, centred on the midclavicular-midinguinal line (courtesy of Professor M Earley, FRSCI, Dublin, Ireland).



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College Of Medicine



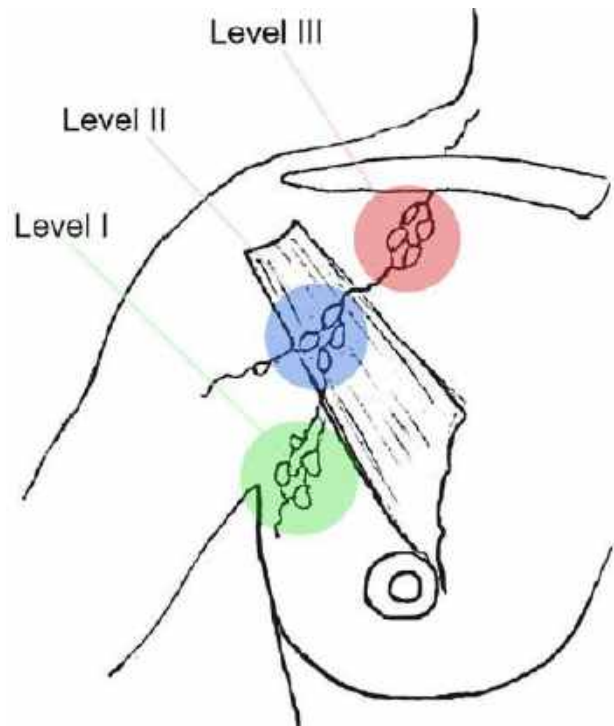
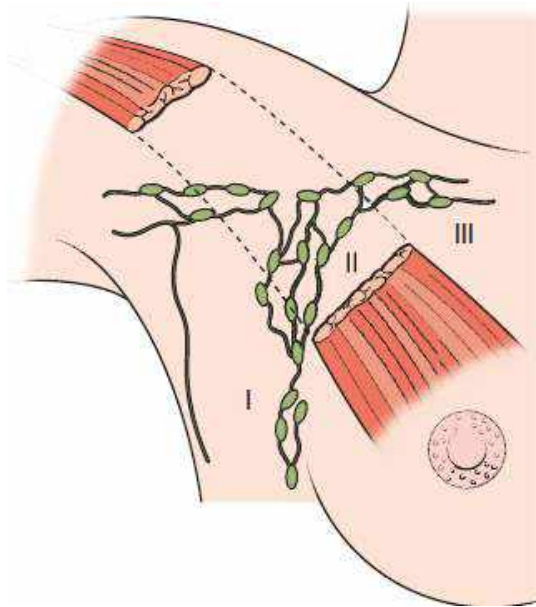
Dr.Ahmed Emad Alkhafaji (M.B.Ch.B)

BREAST **LYMPH NODES**

Classification Of Axillary Lymph Nodes levels

There are three levels of axillary lymph nodes (the nodes in the underarm or "axilla" area):

1. Level I is the bottom level, below the lower edge of the pectoralis minor muscle.
2. Level II is lying underneath the pectoralis minor muscle.
3. Level III is above the pectoralis minor muscle.



what are the lymphatic drainage of the breast?

The lymphatics of the breast drain predominantly into the axillary and internal mammary lymph nodes. The axillary nodes receive approximately 85% of the drainage and are arranged in the following groups

Lateral : along the **axillary vein**.

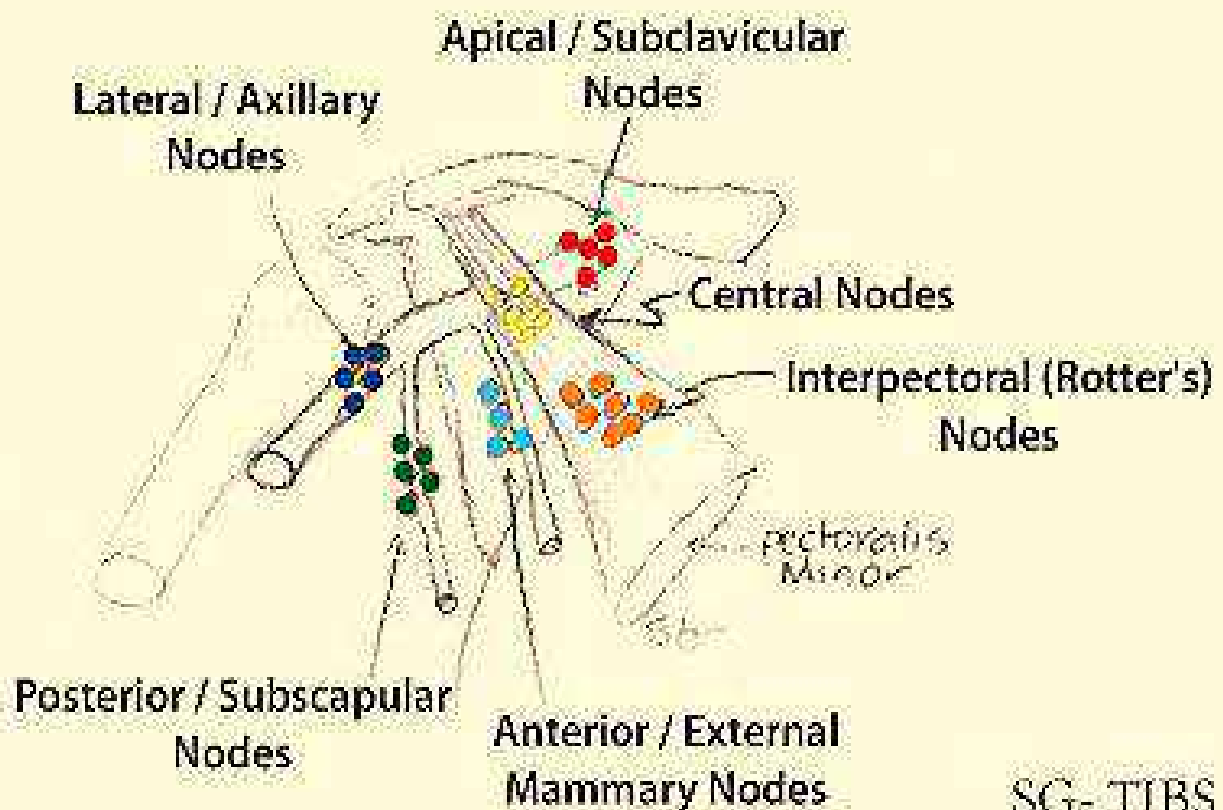
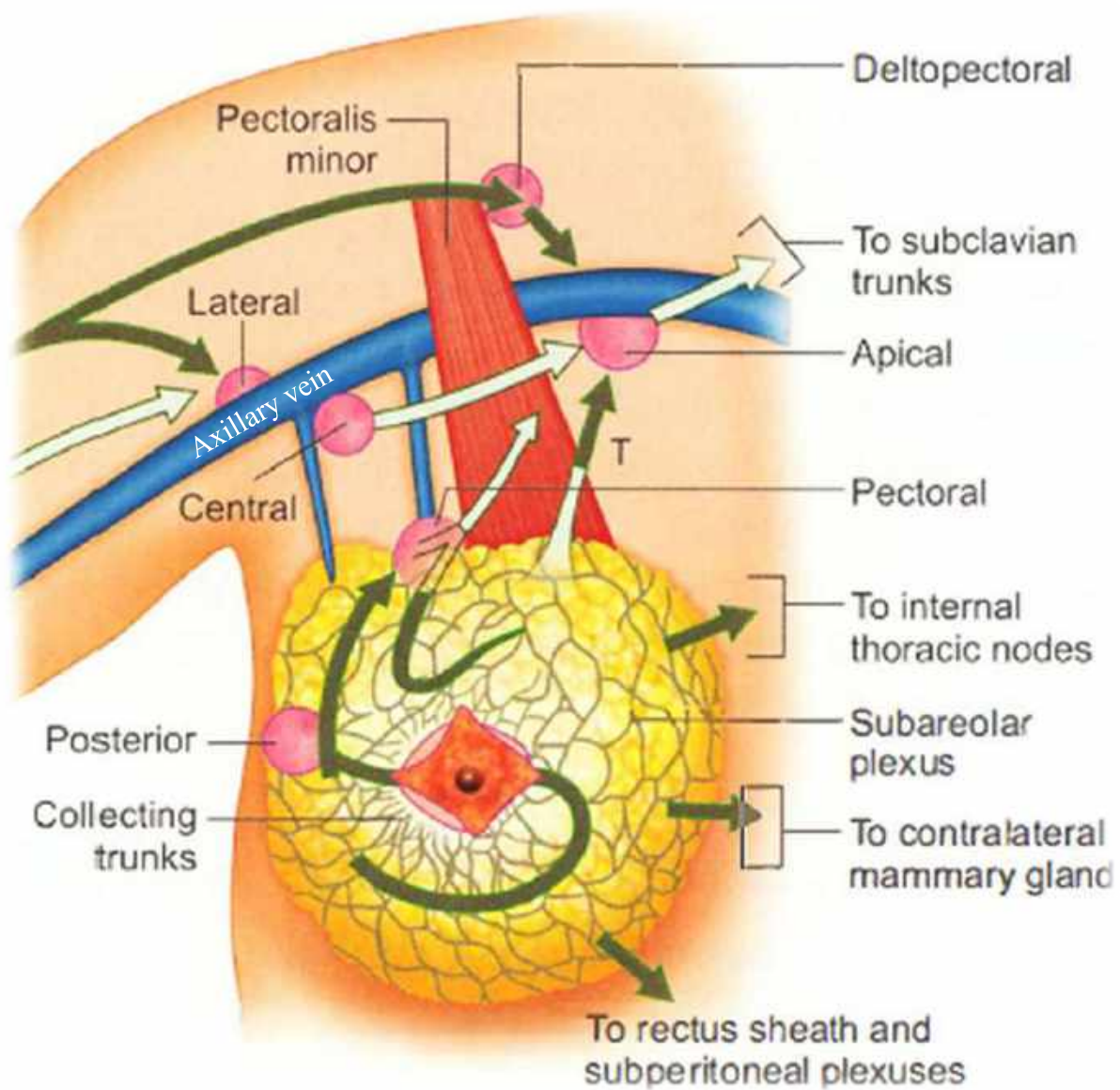
Anterior: along the **lateral thoracic vessels**.

Posterior : along the **subscapular vessels**.

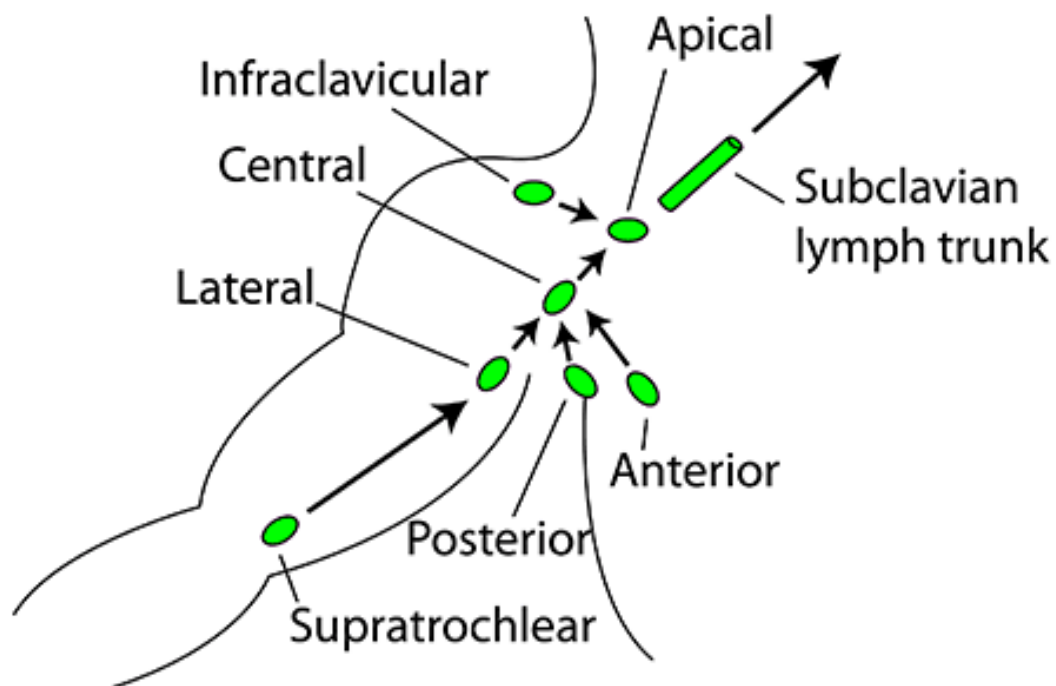
Central: **embedded in fat** in the centre of the axilla.

Interpectoral : a few nodes lying between the pectoralis major and minor muscles.

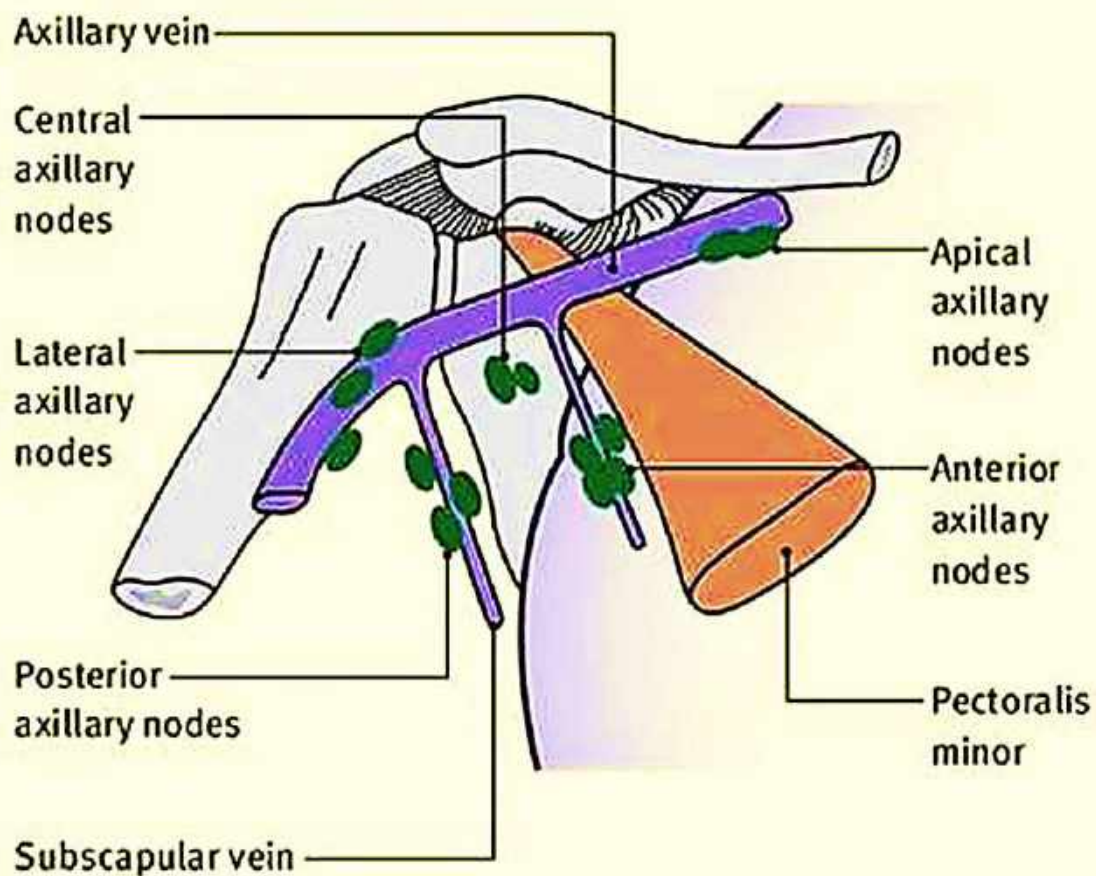
Apical : which lie above the level of the pectoralis minor tendon in continuity with the lateral nodes and which receive the efferents of all the other groups.



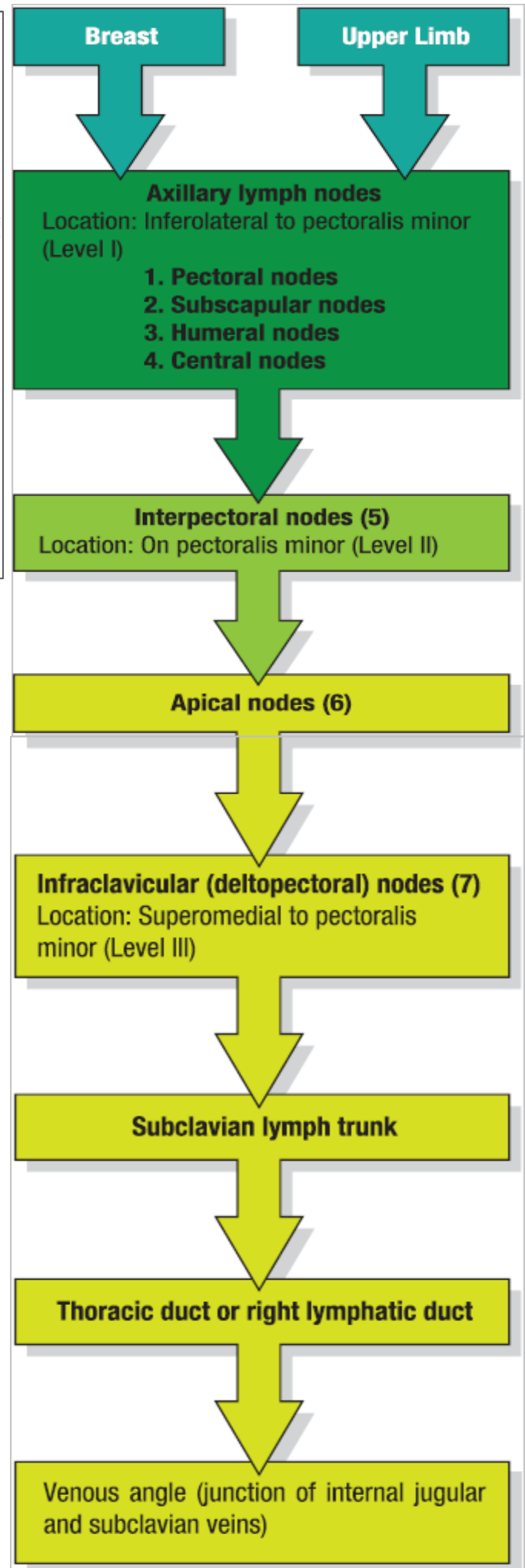
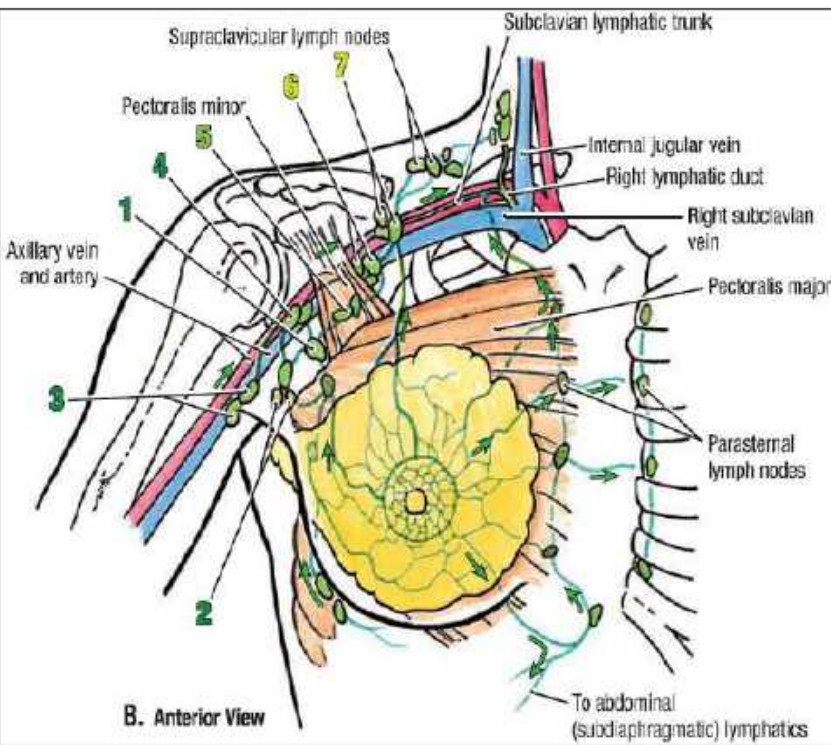
UPPER LIMB LYMPHATICS



Lymph nodes of the axilla



Flow of Lymph From Breast And Upper Limb To Venous Angle



What is A sentinel lymph node biopsy (SLNB)

A sentinel lymph node is defined as the first lymph node to which cancer cells are most likely to spread from a primary tumor. Sometimes, there can be more than one sentinel lymph node.

A sentinel lymph node biopsy (SLNB) is a procedure in which the sentinel lymph node is identified, removed, and examined to determine whether cancer cells are present. It is used in people who have already been diagnosed with cancer.

A negative SLNB result suggests that cancer has not yet spread to nearby lymph nodes or other organs.

A positive SLNB result indicates that cancer is present in the sentinel lymph node and that it may have spread to other nearby lymph nodes (called regional lymph nodes) and, possibly, other organs. This information can help a doctor determine the stage of the cancer (extent of the disease within the body) and develop an appropriate treatment plan.

Method of sentinel lymph node biopsy (SLNB) procedure :

First, the sentinel lymph node (or nodes) must be located. To do so, a surgeon injects a radioactive substance, a blue dye, or both near the tumor. The surgeon then uses a device to detect lymph nodes that contain the radioactive substance or looks for lymph nodes that are stained with the blue dye. Once the sentinel lymph node is located, the surgeon makes a small incision (about 1/2 inch) in the overlying skin and removes the node.

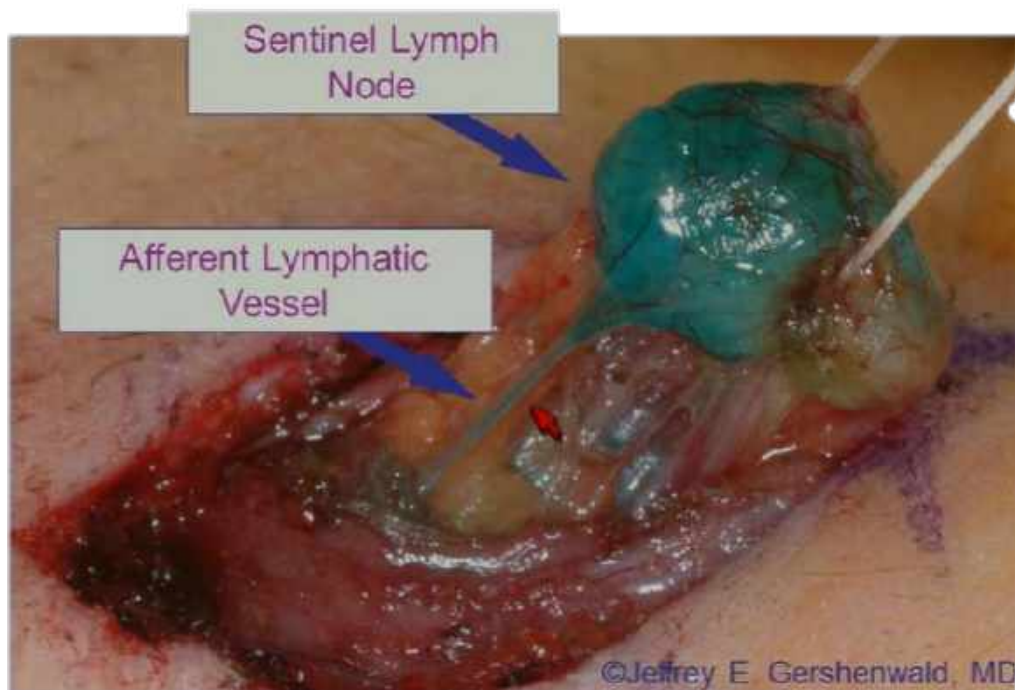
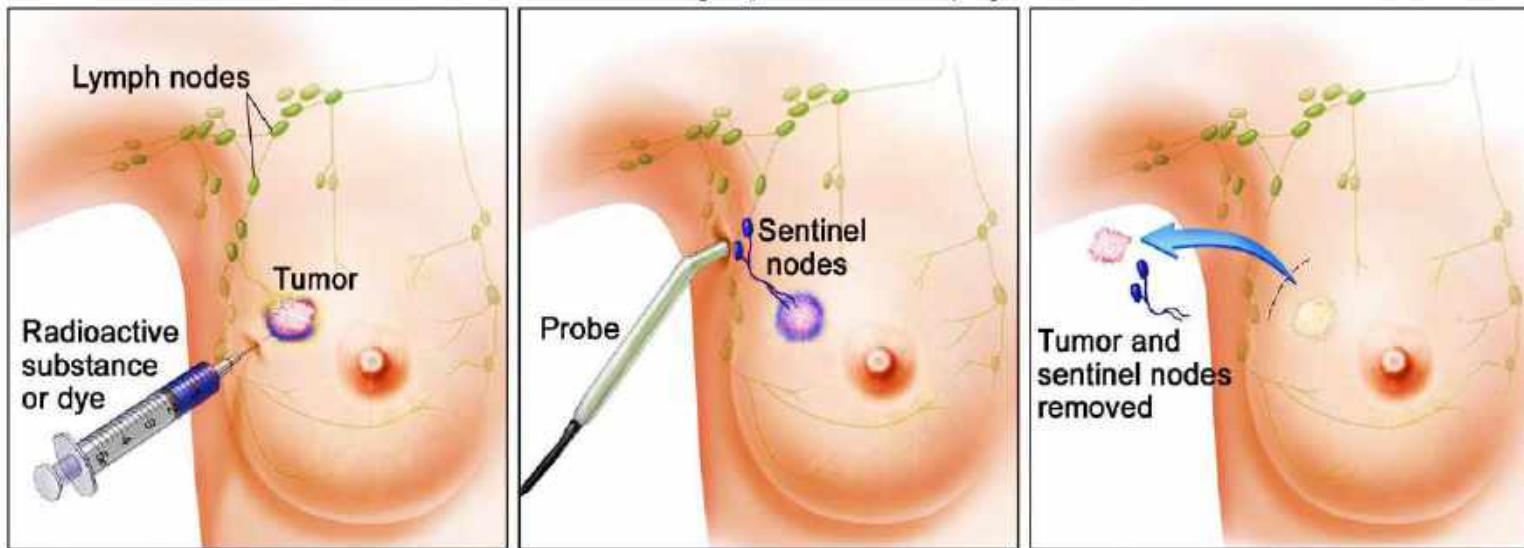
The sentinel node is then checked for the presence of cancer cells by a pathologist. If cancer is found, the surgeon may remove additional lymph nodes, either during the same biopsy procedure or during a follow-up surgical procedure. SLNB may be done on an outpatient basis or may require a short stay in the hospital.

SLNB is usually done at the same time the primary tumor is removed. In some cases the procedure can also be done before or even after (depending on how much the lymphatic vessels have been disrupted) removal of the tumor.

What are the benefits of sentinel lymph node biopsy SLNB?

SLNB helps doctors stage cancers and estimate the risk that tumor cells have developed the ability to spread to other parts of the body. If the sentinel node is negative for cancer, a patient may be able to avoid more extensive lymph node surgery, reducing the potential complications associated with having many lymph nodes removed.

Sentinel Lymph Node Biopsy



نسألكم الدعاء



Surgical signs

This Lecture Illustrated By Dr.Ahmed
Emad Alkhafaji M.B.Ch.B,University
Of JIH , College Of Medicine

Objectives of lecture:

1-signs associated with diseases of spleen

2-signs associated with diseases of gallbladder

3-signs associated with diseases of pancreas and stomach

4-signs associated with diseases appendix

5-triads

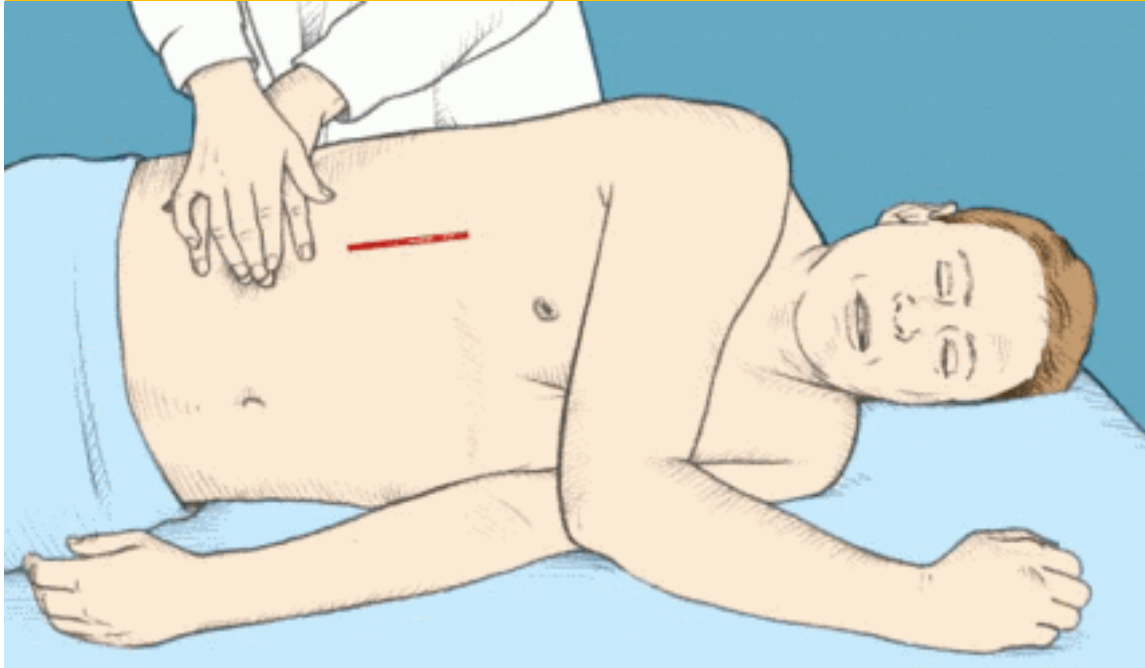
6-signs associated with diseases of thyroid gland

7-signs associated with hypocalcemia

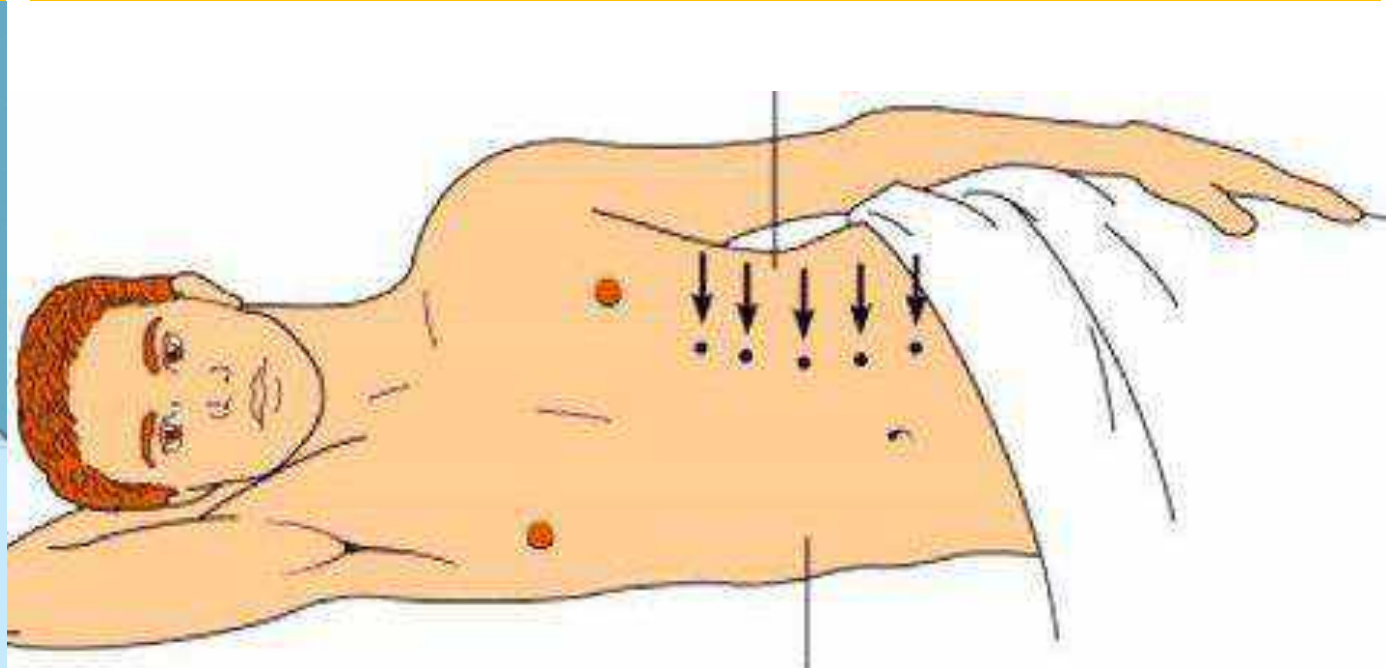
Ballances' sign

Ballances' sign: Seen in about 25% of ruptured spleen. Presence of a dull percussion note in both flanks when patient in supine position, constant on the left side but shifting with change of position on the right, said to indicate ruptured spleen; the dullness is due to the presence of fluid blood on the right side but coagulated blood on the left.

Tympanic percussion on right flank

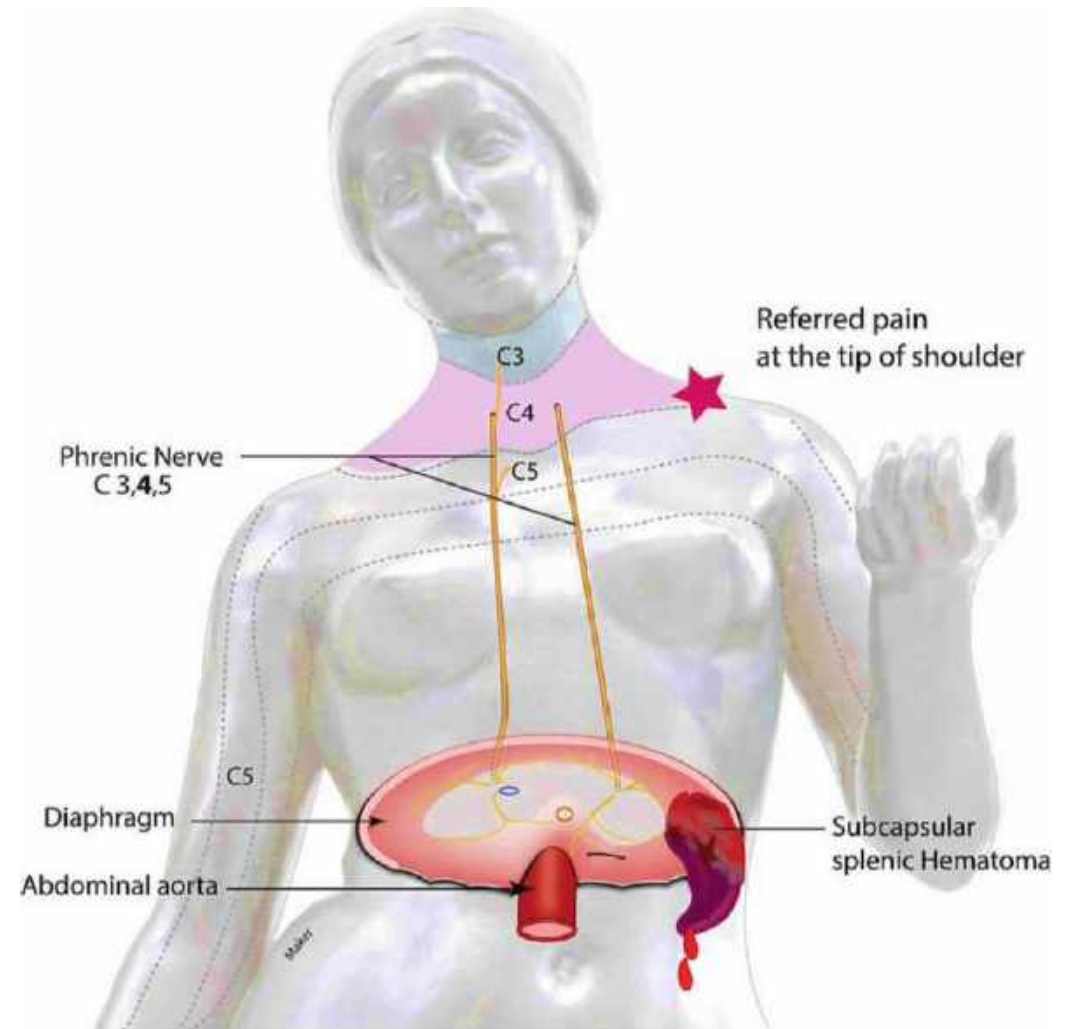


dull percussion remain constant



Kehr sign

Kehr sign: This sign identifies the pain elicited in the left shoulder in patients with suspected **splenic rupture**. The pain (referred pain) experienced by the patient is due to blood in the peritoneal cavity irritating the diaphragm.



Objectives of lecture:

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4-signs associated with diseases appendix

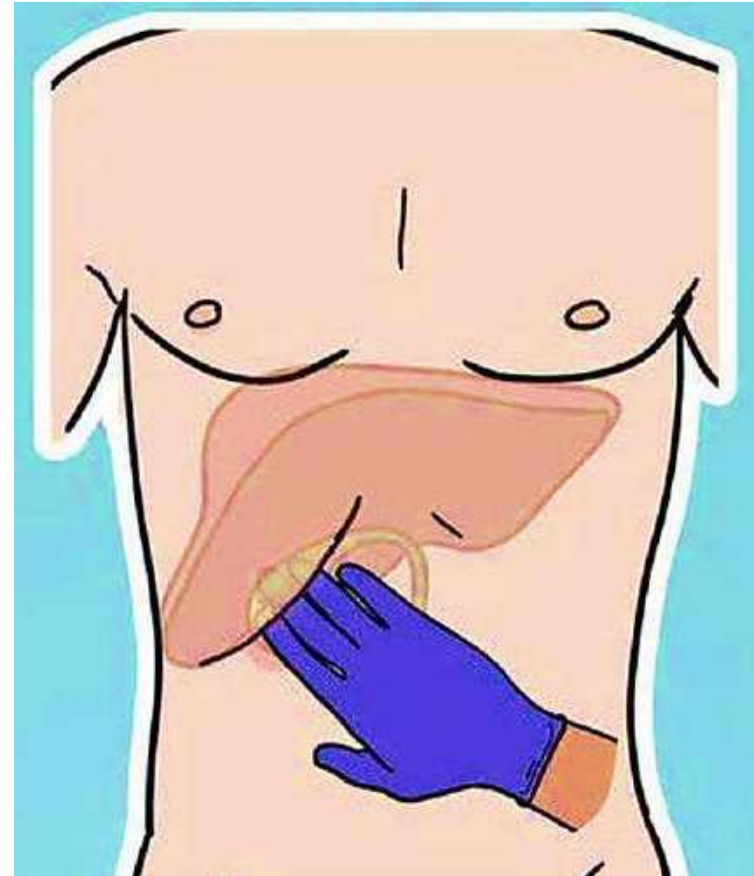
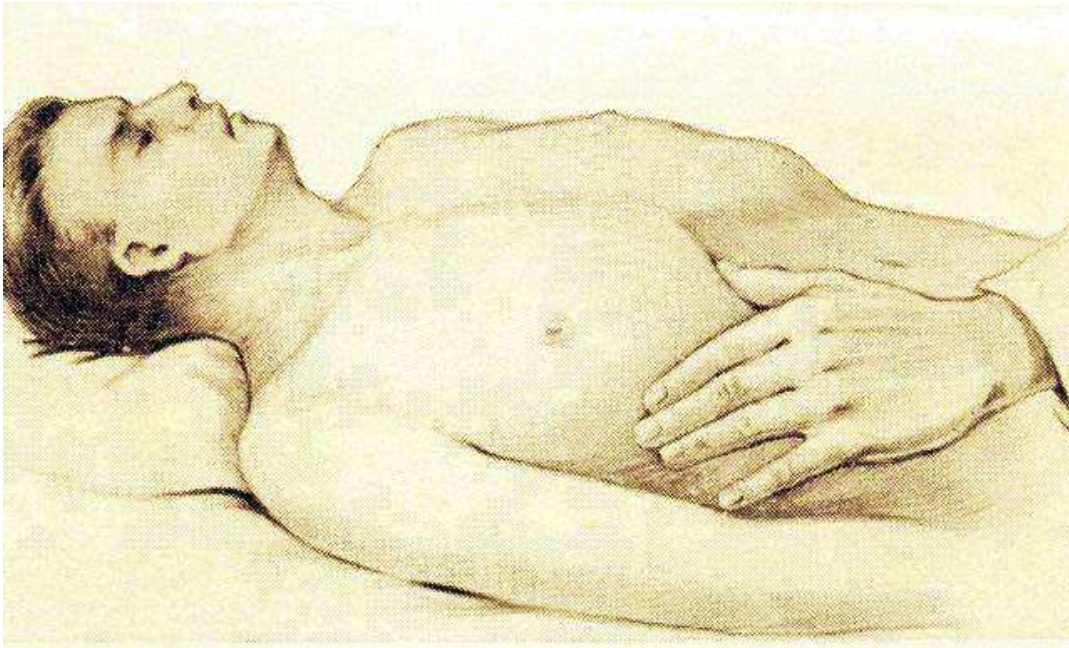
5-triads

6-signs associated with diseases of thyroid gland

7-signs associated with hypocalcemia

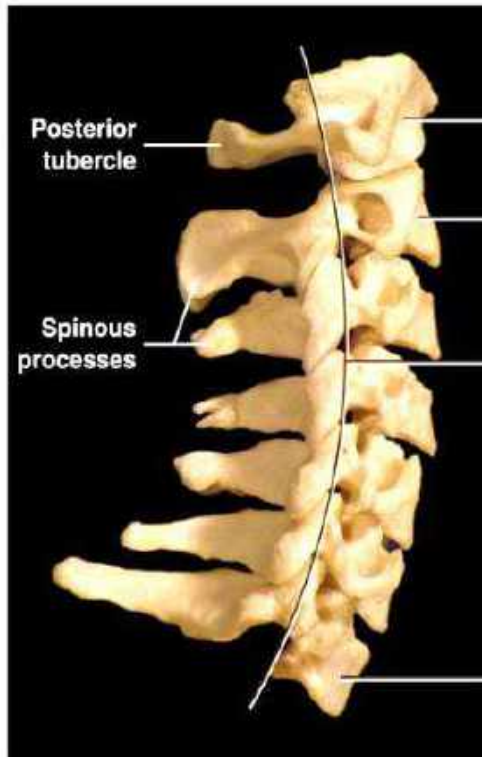
Murphy's sign

Murphy's sign : This clinical sign is classically described in patients suffering from **cholecystitis**. It is elicited by asking the patient to breath deeply while exerting moderate pressure with the left hand such that thumb lies over the fundus of the gallbladder. The patient catches his breath as the inflamed gallbladder which is pushed down by the diaphragm gets imposed against the thumb.

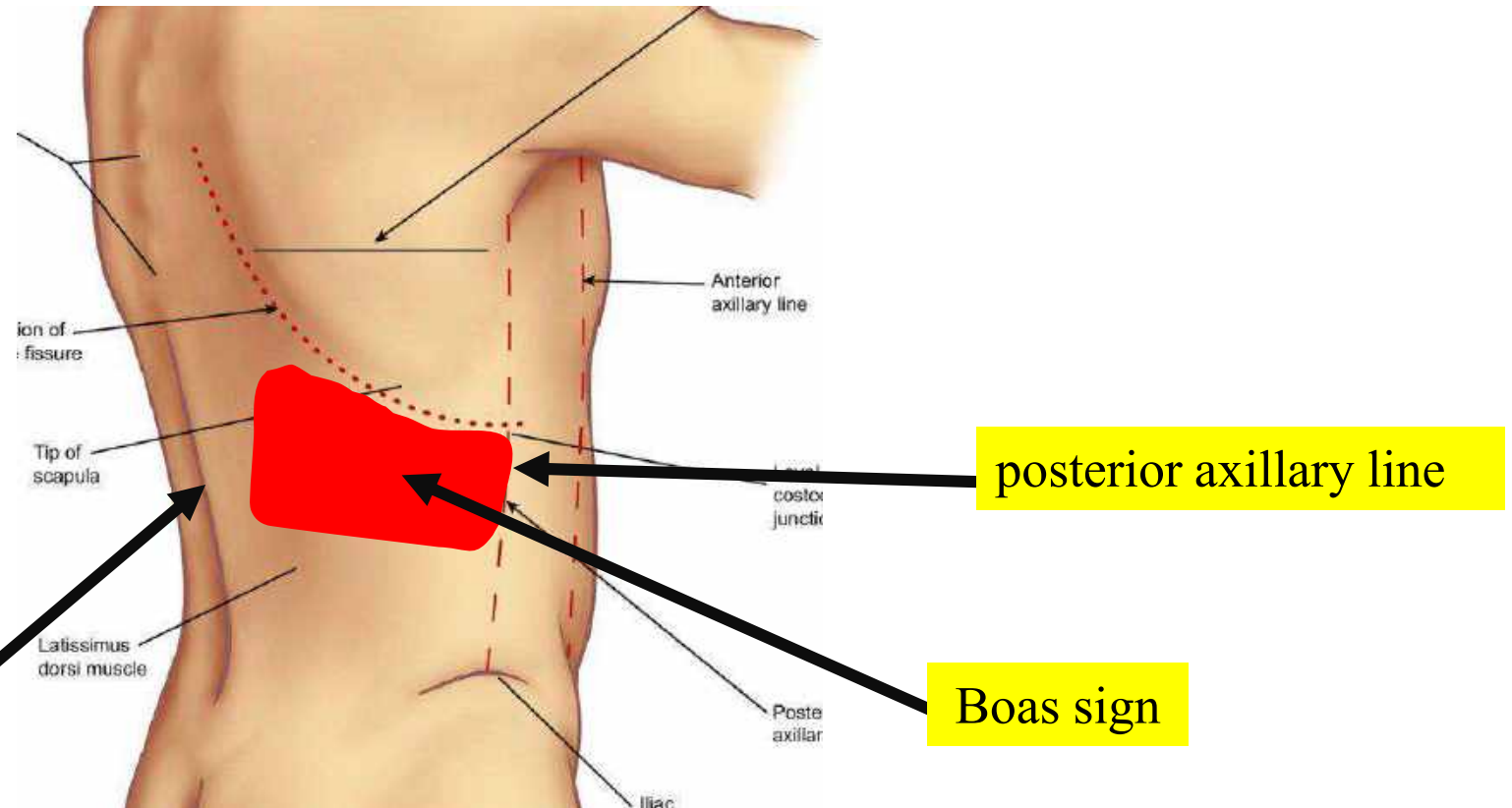


Boas sign

Boas sign: An area of hyperaesthesia, posteriorly extending 2.5 cm lateral to the spinous process of vertebrae to the posterior axillary line and vertically from the level of the 11th dorsal to the 1st lumbar spine— **A definitive sign of the presence of cholecystitis.**

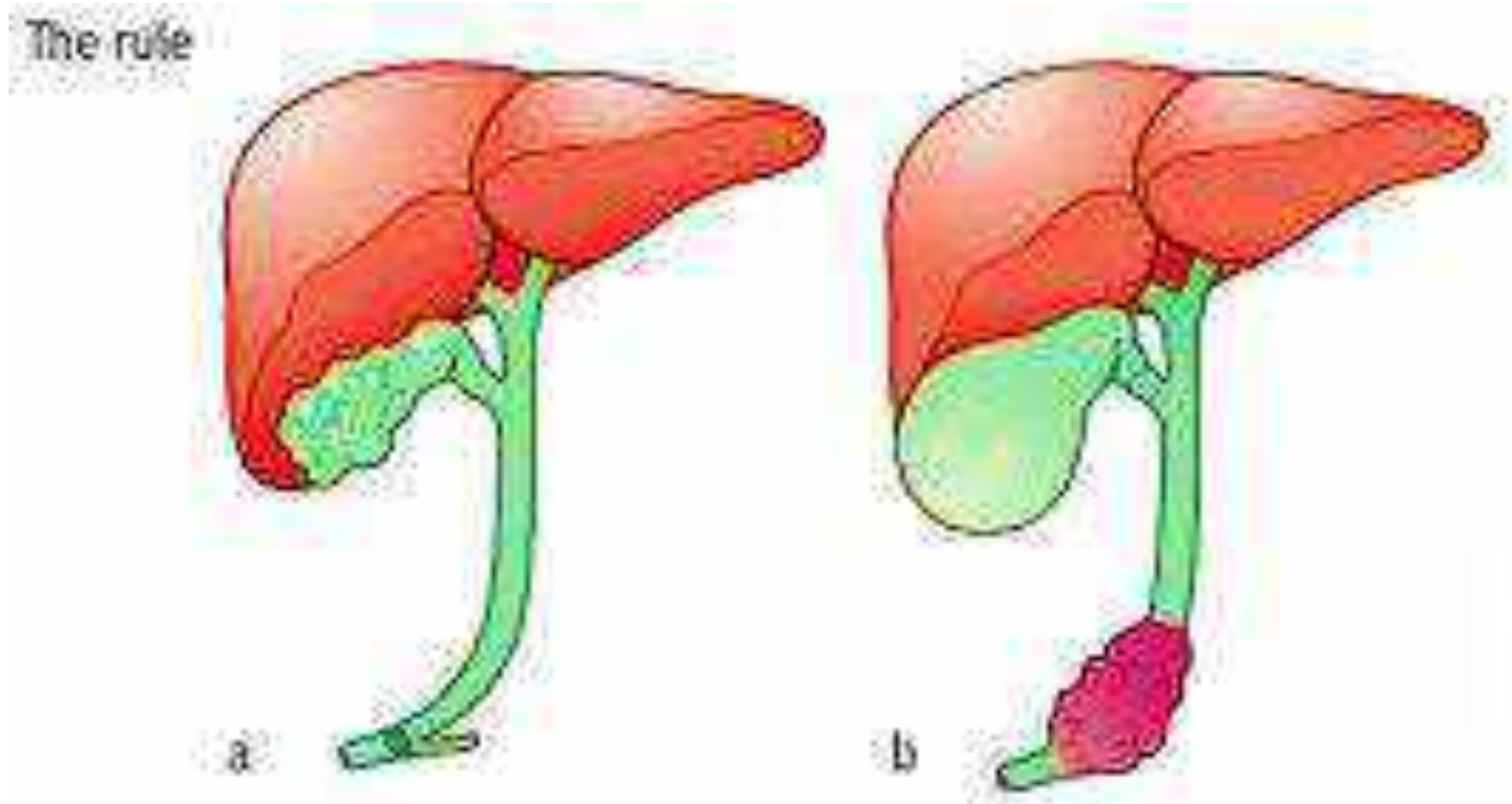


spinous process of vertebrae



Courvoisier's sign

Courvoisier's sign: In a patient with obstructive jaundice, if the gallbladder is palpable it is not due to gallstones.



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5-triads

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7-signs associated with hypocalcemia

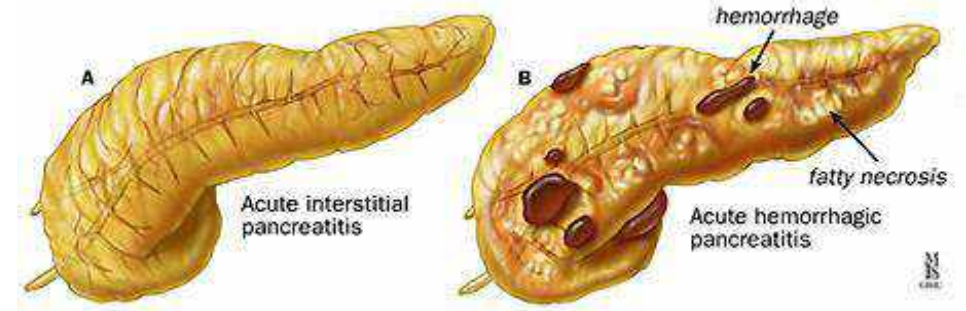
Grey Turner sign

Grey Turner sign: Skin discolouration (bruising) in the left flank (left costovertebral angle) in cases of **acute haemorrhagic pancreatitis**.



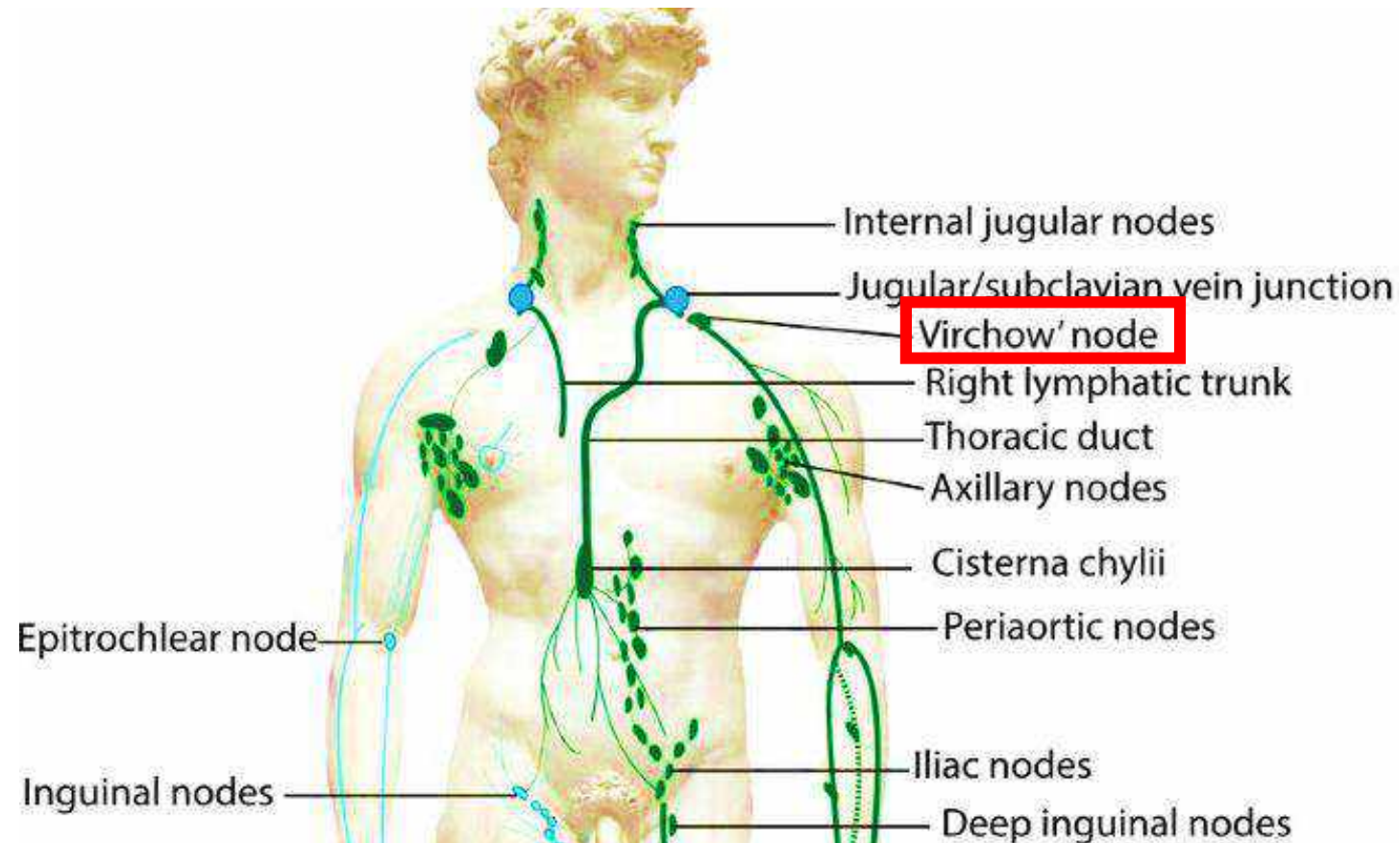
Cullen's sign

Cullen's sign: A clinical sign which was typically and initially described for ruptured ectopic pregnancy wherein there is discolouration (ecchymosis) of the umbilicus and the surrounding skin (aptly referred to as umbilical black eye). It is due to haemoperitoneum and may be seen in conditions like **ruptured ectopic pregnancy** (a bluish tinge), **acute haemorrhagic pancreatitis** (a yellowish tinge).



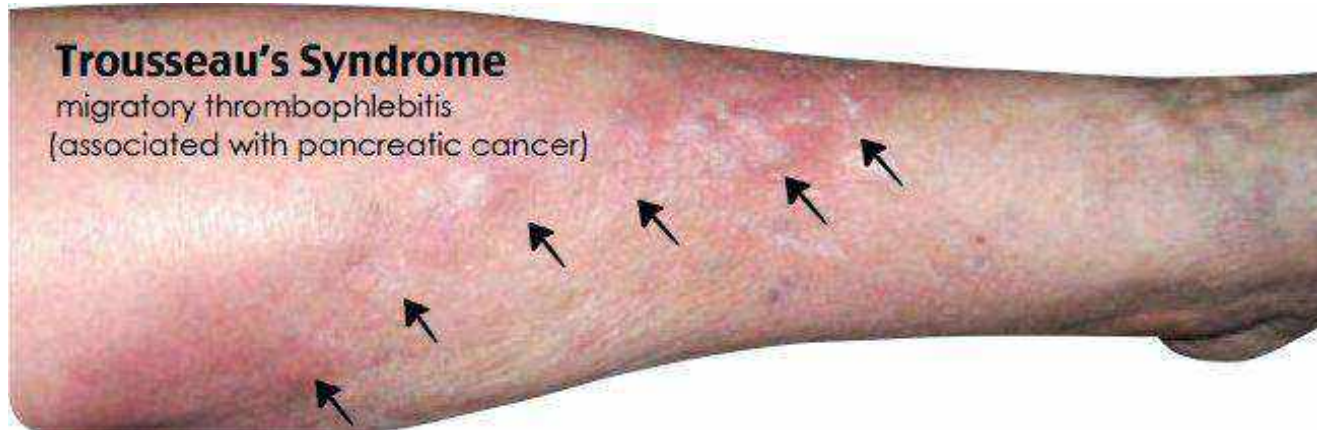
Troisier's sign

Troisier's sign: Identifies enlargement of left supraclavicular lymph node (Virchow's node).
Seen in: Ca stomach, Ca testes, Ca bronchus, Malignancy of any other abdominal organ.



Migrating superficial thrombophlebitis

Migrating superficial thrombophlebitis (Trousseau's syndrome) : episodes of vessel inflammation due to blood clot (thrombophlebitis) which are recurrent or appearing in different locations over time . It is a sign of visceral carcinomas especially of pancreas or the stomach.



Objectives of lecture:

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4-signs associated with diseases appendix

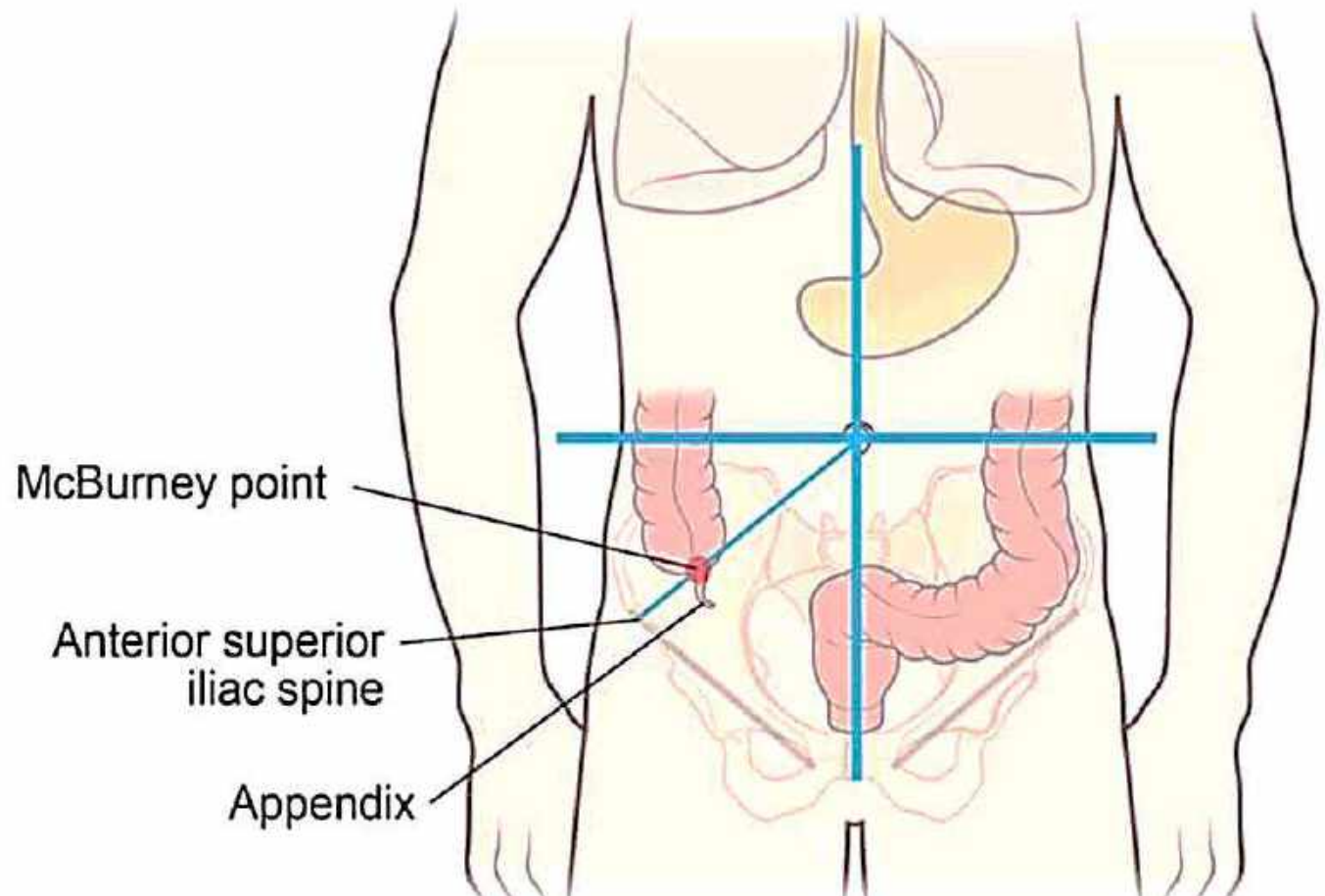
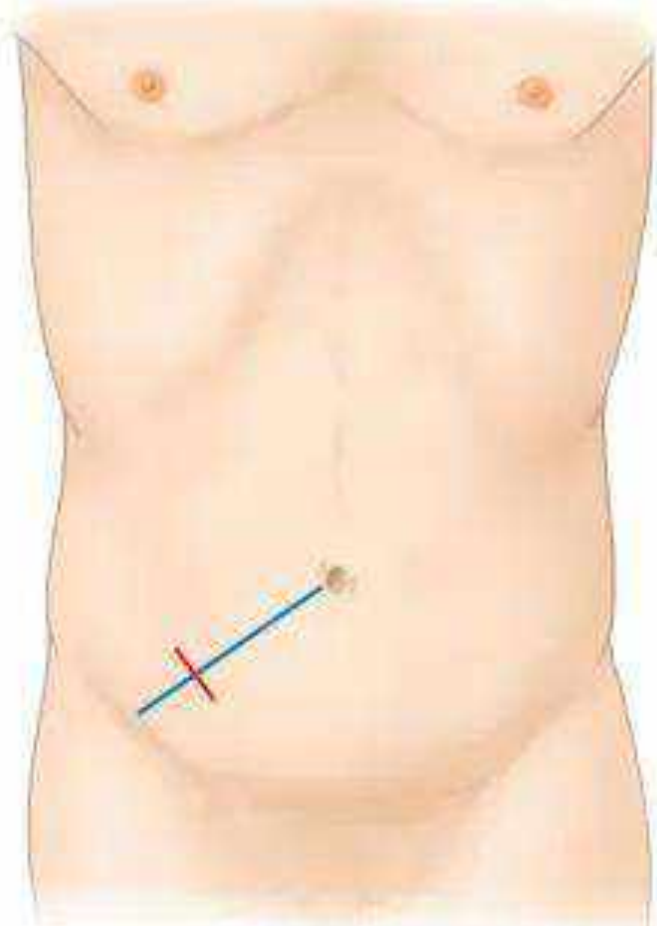
5-triads

6-signs associated with diseases of thyroid gland

7-signs associated with hypocalcemia

McBurney's sign

McBurney's sign: Finger tip pressure is made over the McBurney point elicits severe tenderness in patients with **appendicitis**.



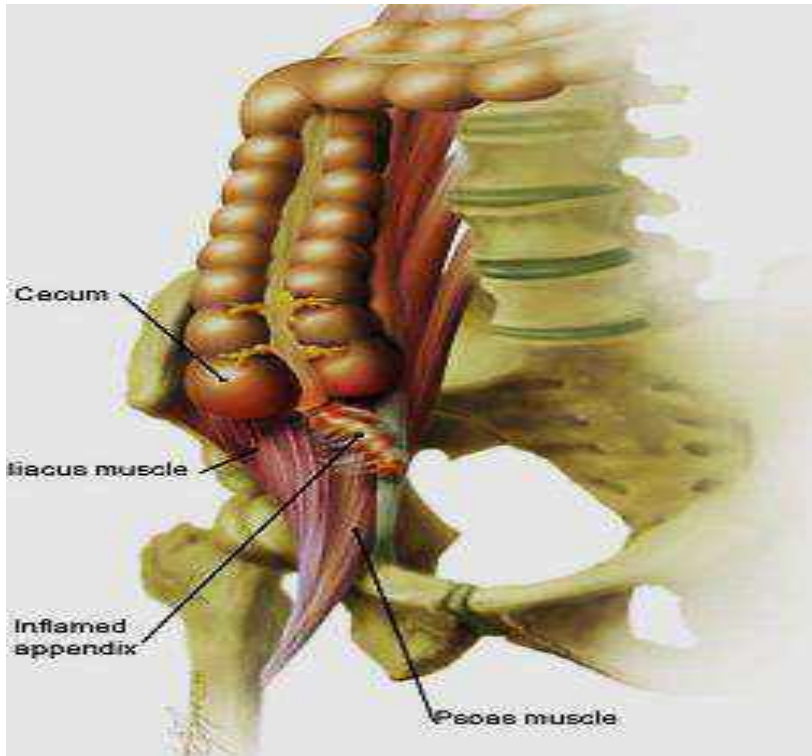
Pointing sign

Pointing sign: point to the site of maximum pain it is also certainly the site of diseased organ, e.g. **appendicitis**.



Psoas sign

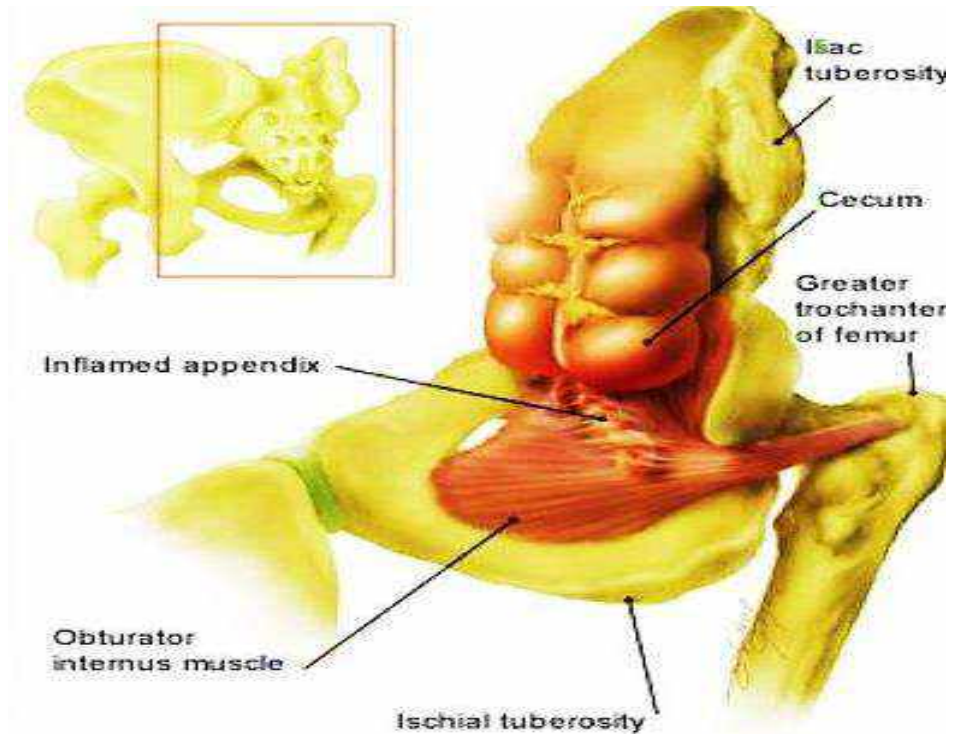
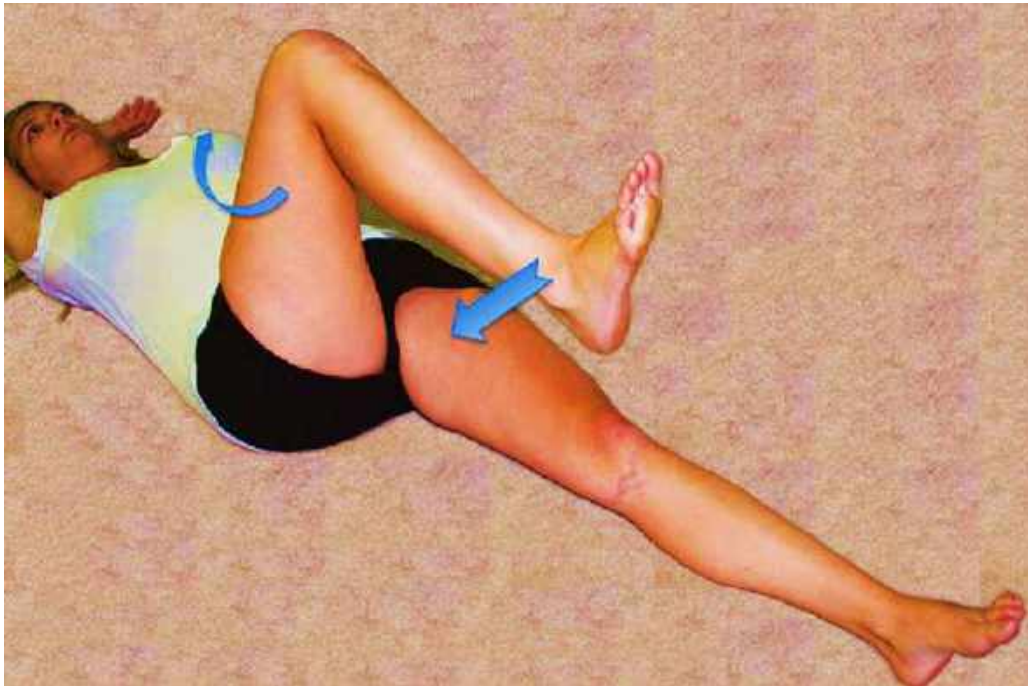
Psoas sign : Pain on passive extension of the right thigh. Patient lies on left side. Examiner extends patient's right thigh , Suggest irritation of psoas muscle by inflamed appendix



Anatomic basis for the psoas sign: inflamed appendix is in a retroperitoneal location in contact with the psoas muscle, which is stretched by this maneuver

Obturator sign

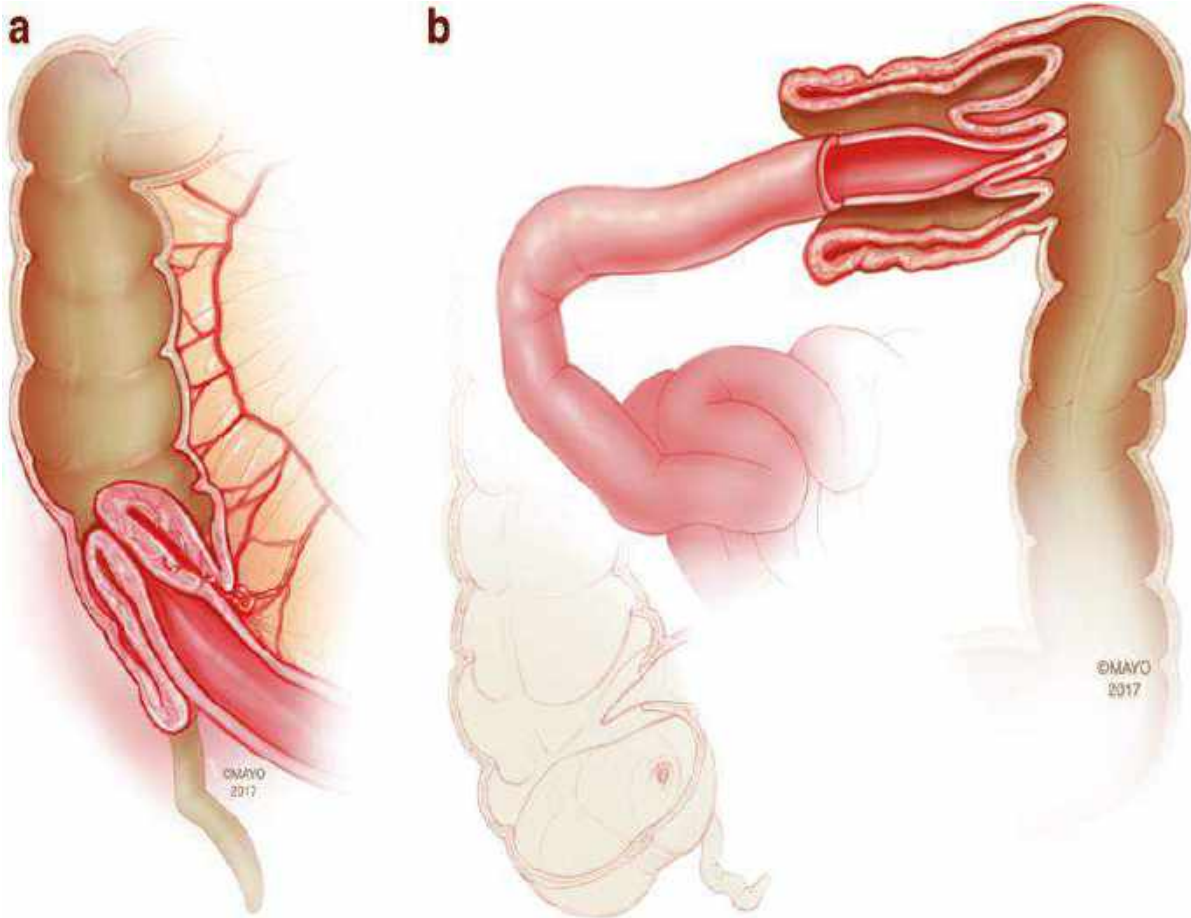
Obturator sign : Pain on passive internal rotation of flexed thigh .Examiner moves lower leg laterally while applying resistance to the lateral side of knee resulting in internal rotation of femur



Anatomic basis for the obturator sign: inflamed appendix in the pelvis is in contact with the obturator internus muscle, which is stretched by this maneuver.

Dance sign

Dance sign : A feeling of emptiness in the right iliac fossa—A sign of **intussusception**.



Objectives of lecture:

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4-signs associated with diseases appendix

5-triads

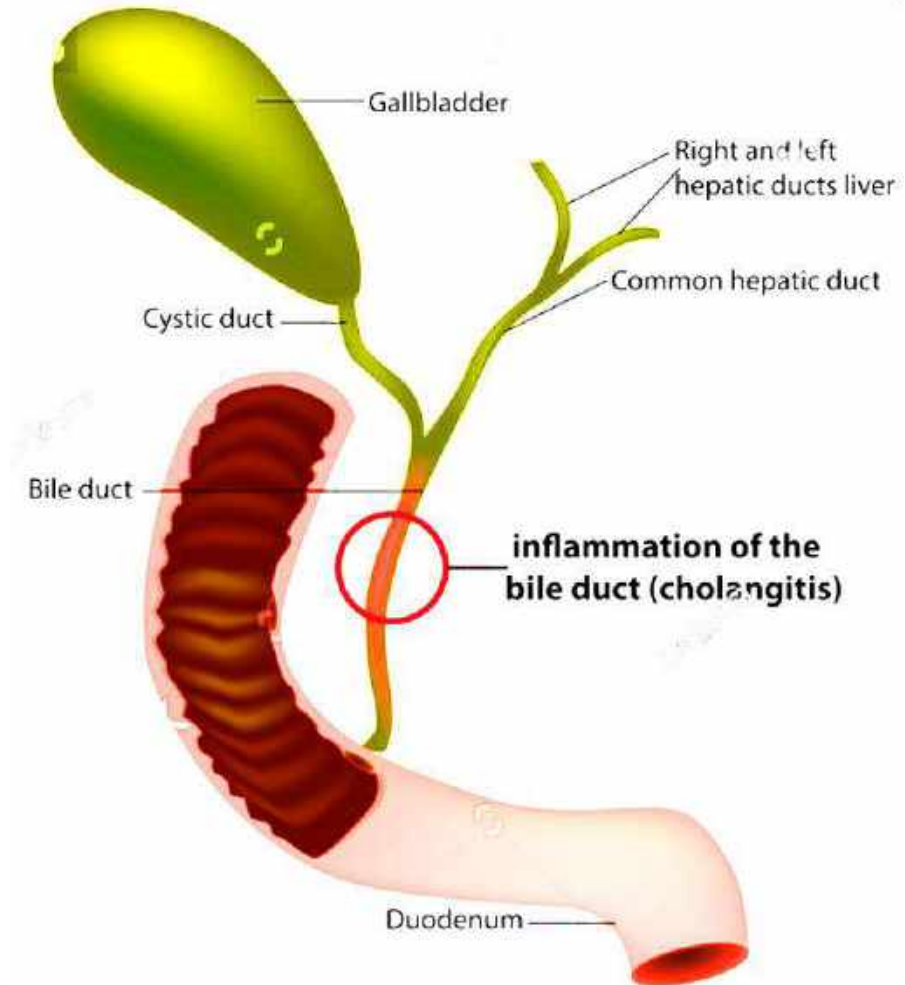
6-signs associated with diseases of thyroid gland

7-signs associated with hypocalcemia

Charcot's triad

Charcot's triad: Seen in ascending cholangitis.

Intermittent **fever** + Intermittent **pain** + Intermittent **jaundice**.



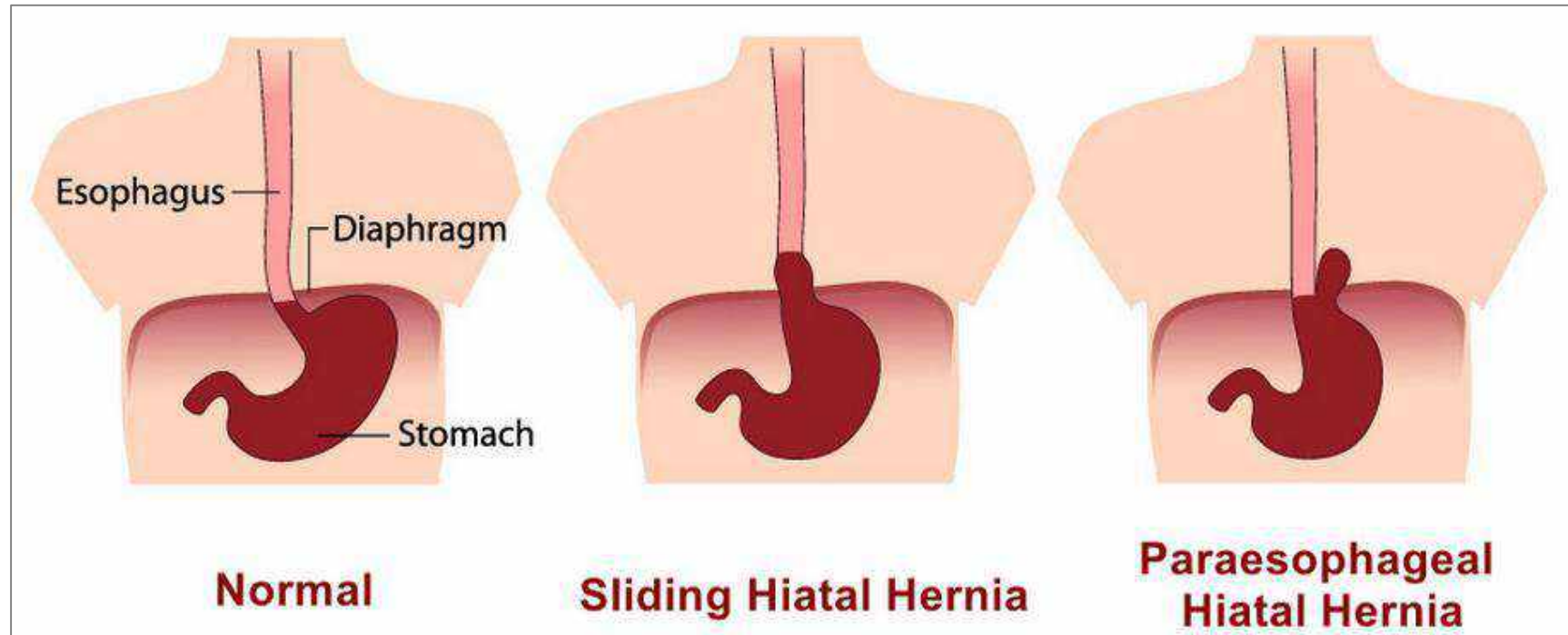
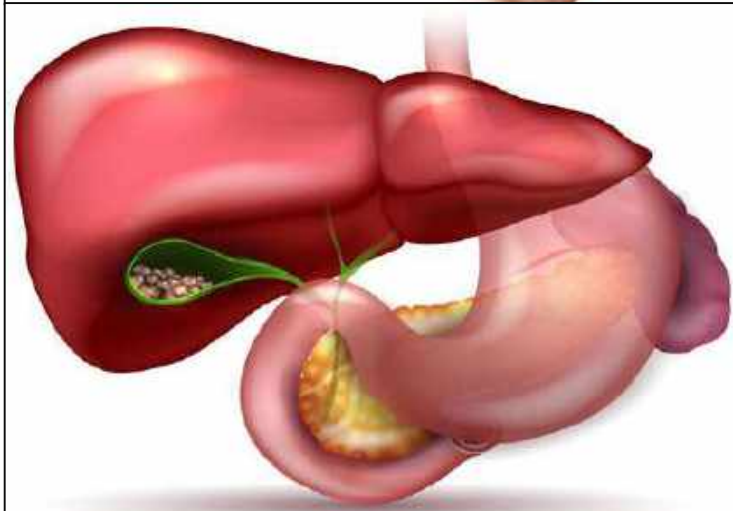
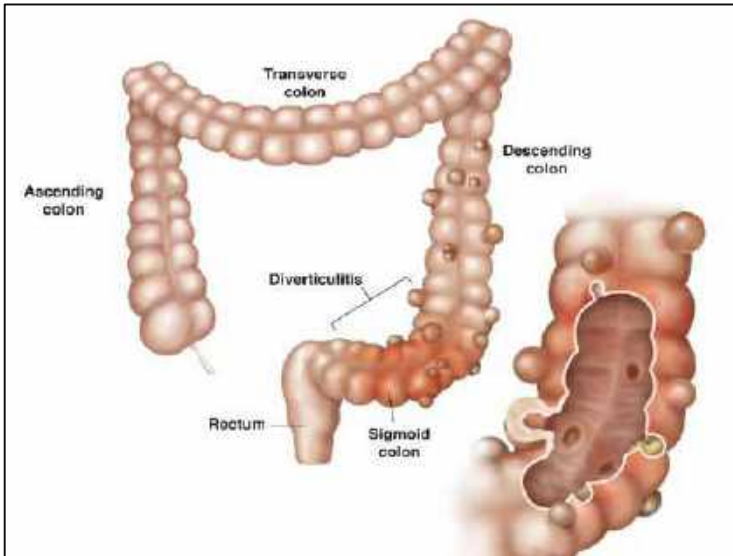
Murphy's triad

Murphy's triad: Seen in acute appendicitis.
Pain in right iliac fossa, Vomiting, fever .



Saint's triad

Saint's triad: Diverticulosis of colon , stones in gallbladder and diaphragmatic hernia (Hiatus hernia).



Objectives of lecture:

1-signs associated with diseases of spleen

2-signs associated with diseases of gallbladder

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4-signs associated with diseases appendix

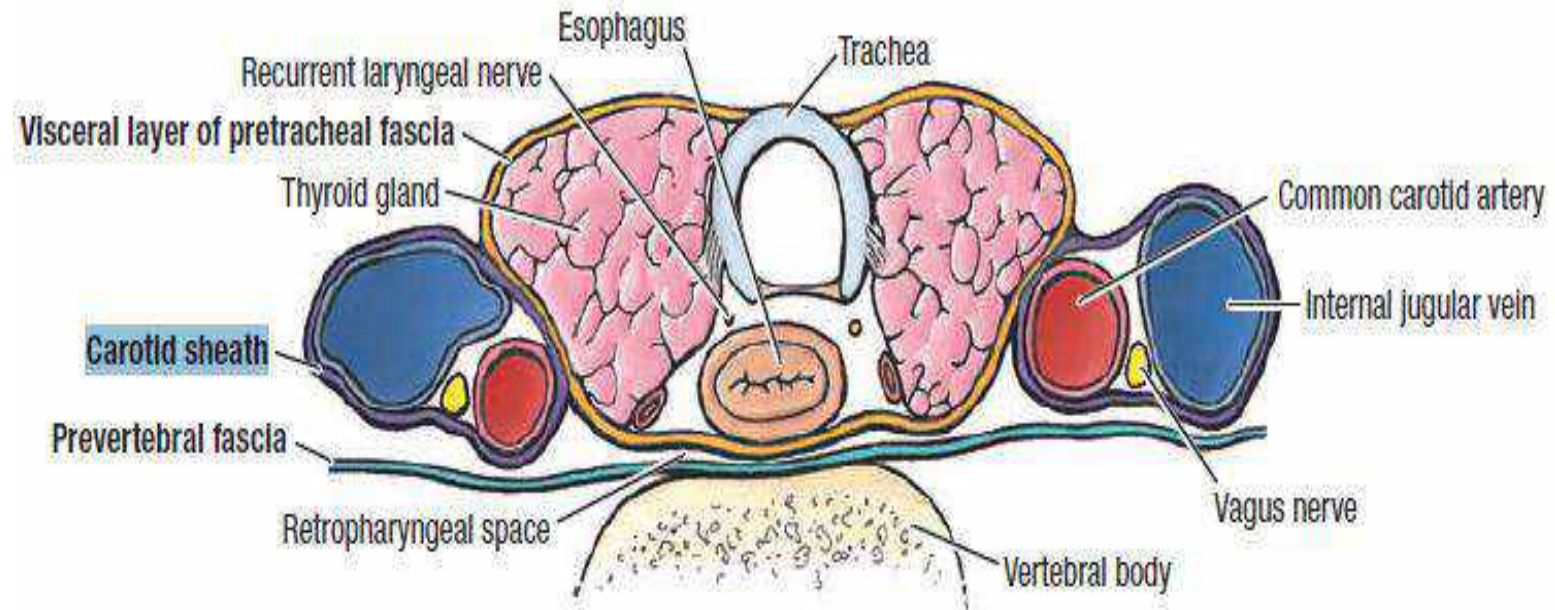
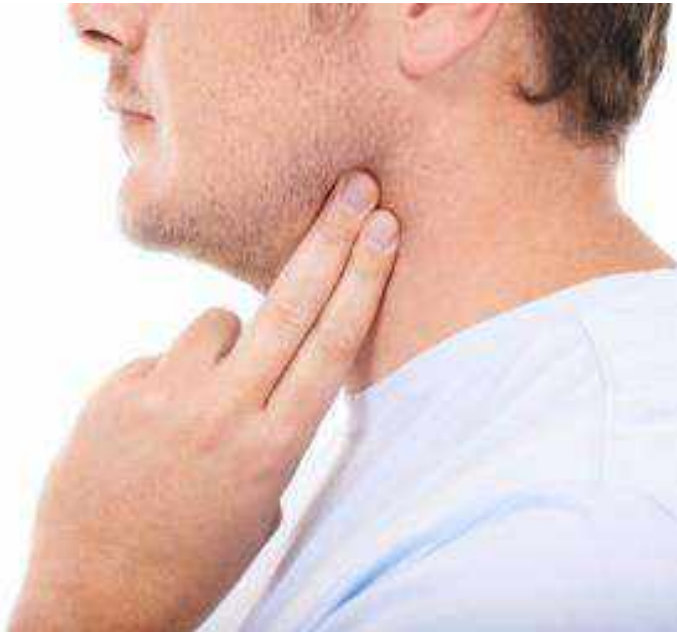
5-triads

6-signs associated with diseases of thyroid gland

7-signs associated with hypocalcemia

Berry's sign

Berry's sign: Indicated by the absence of carotid artery pulsation in a patient presenting with goitrous swelling, is an **ominous sign of thyroid malignancy** (due to carotid sheath infiltration by the malignant tissue).

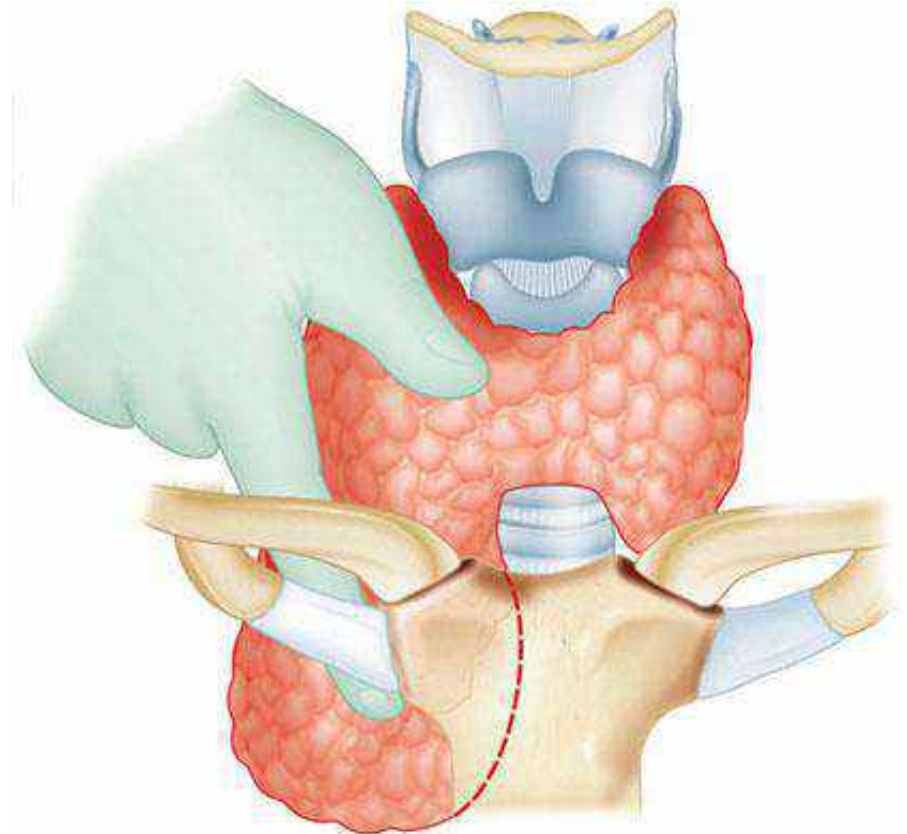


Plummer's sign

Plummer's sign: Inability to step up onto the chair or to walk up steps seen in Graves' disease and other forms of hyperthyroidism.

Pemberton's sign

Pemberton's sign: This sign refers to symptoms of faintness with evidence of facial congestion and external jugular vein distension when the arms are raised above the head touching the ears. This manoeuvre reduces the thoracic inlet thereby hampering venous drainage of the face in the presence of **retrosternal thyroid**.



Dalrymple's sign

Dalrymple's sign: It is one of the manifestations of Graves' ophthalmopathy. It consists of retraction of the upper eyelid so that the palpebral opening is abnormally wide and upper sclera is visible.

Normal



Upper lid halfway between pupil and superior limbus

Lower lid at a tangent to inferior limbus

Lid retraction



Upper lid raised

Lower lid normal

N.B. This is not exophthalmos



Von Graefe's Sign

von Graefe's sign: Persistent lagging of upper lid behind the corneoscleral limbus .when patient is asked to follow the finger moved up and down several times. Seen in Graves' disease



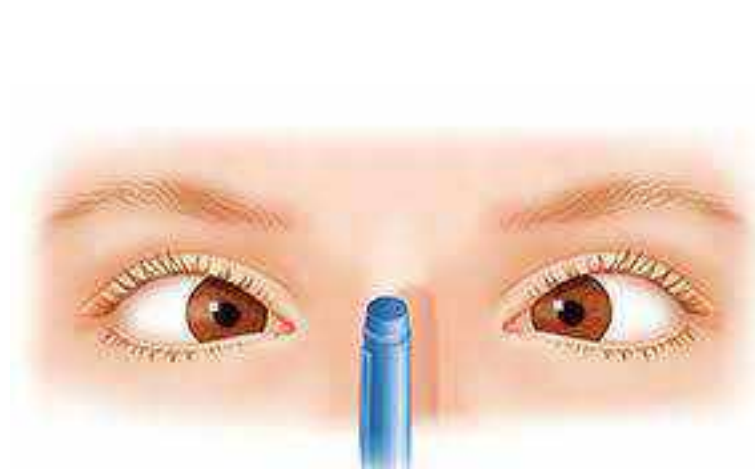
Stellwag's sign

Stellwag's sign: Identifies the widening of palpebral fissures (staring look) due to retraction of upper eyelids, plus **infrequent blinking**. It is an early sign of Graves disease.



Moebius sign

Moebius sign: Inability to keep the eyeballs converged due to insufficiency of medial rectus muscle— A clinical sign of **Graves' ophthalmopathy**.



Joffroy's sign

Joffroy's sign: Absence of wrinkling of the forehead when the head is bent down and the patient is asked to look upwards— A sign of Graves' ophthalmopathy



Objectives of lecture:

1-signs associated with diseases of spleen

2-signs associated with diseases of gallbladder

3-signs associated with diseases of pancreas and stomach

4-signs associated with diseases appendix

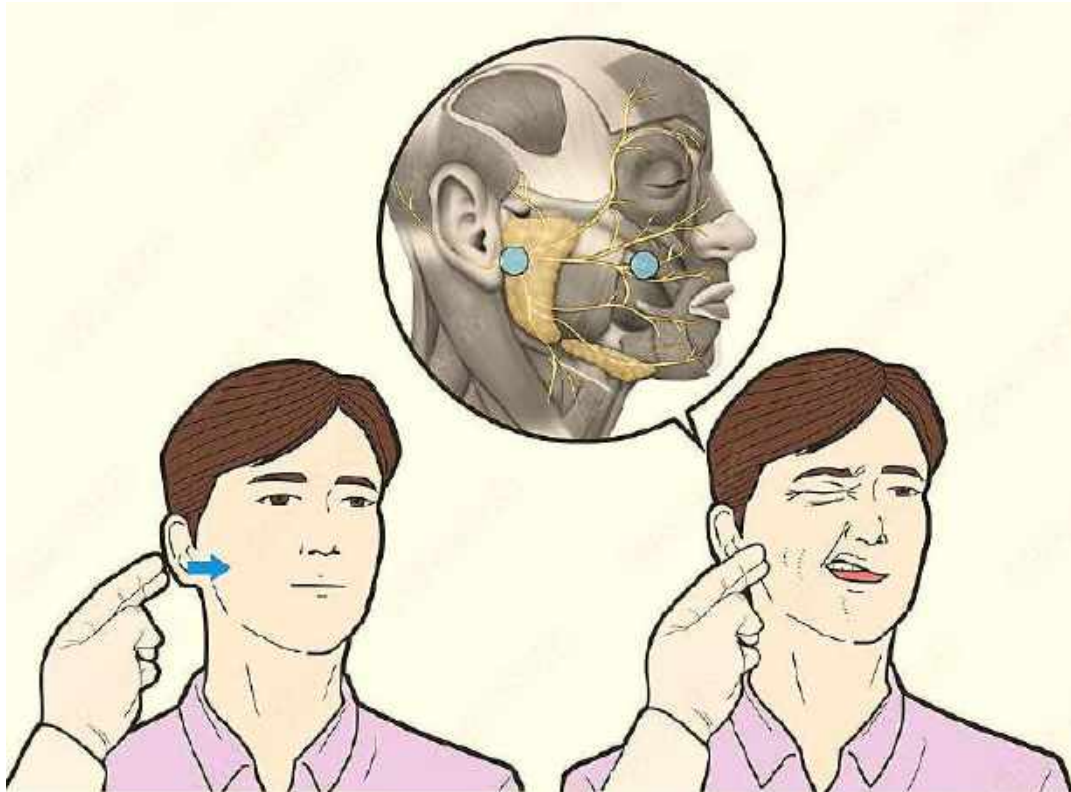
5-triads

6-signs associated with diseases of thyroid gland

7-signs associated with hypocalcemia

Chvostek's sign

Chvostek's sign: A clinical sign typically described for **hypocalcemic tetany**. The sign is elicited by tapping over the muscles and/or superficial nerves to induce the muscle spasm. A light tap over the facial nerve branches in front of the ear lobe causes muscular twitching over the whole of that side of the face



Trousseau's sign

Trousseau's sign: This sign is described under two different context: The blood pressure cuff is applied to the arm and inflated to pressure above systolic pressure for 3-5 minutes. This will elicit typical carpopedal spasm (obstetrician's hand) in cases of **hypoparathyroidism** and other conditions associated with **hypocalcaemia**.



قاوم حتى لو وصلت ممزقاً، لذة الوصول سترممك

نسألكم الدعاء



transverse slit retractionduct ectasia

Risk actors or the development of
* breast cancer include

Longer lactation period ☐

Early menarche ☐

Late menopause ☐

Nulliparity ☒



A 35-year-old female presents with a



breast quiz

*مطلوب

CHOOSE THE SINGLE BEST ANSWER

GIVE YOUR DIFFERENTIAL
DIAGNOSIS



إجابتك

Paget

NAME THIS PROCEDURE AND GIVE
* ?THE ADVANTAGE OF IT





nipple inversion peau d'orange...breast ca

WHAT IS YOUR DIAGNOSIS AND
* TREATMENT



mastitis



A 40-year-old lawyer comes into





A 40-year-old lawyer comes into your office after seeing some information on the Internet relating to breast cancer. Which of the following factors has not shown to increase a woman's risk for breast * ?cancer

E. Increasing age. ☐

A. Smoking ☐

D. First-degree relative with history of breast cancer ☐

B. Previous history of benign breast biopsies ☒

C. Atypia seen on pathology from previous breast biopsy ☐

Name this sign and give a common





previous breast biopsy

Name this sign and give a common example of it



transverse slit retractionduct ectasia



Risk actors or the development of





breast quiz

*مطلوب

CHOOSE THE SINGLE BEST ANSWER

GIVE YOUR DIFFERENTIAL
DIAGNOSIS



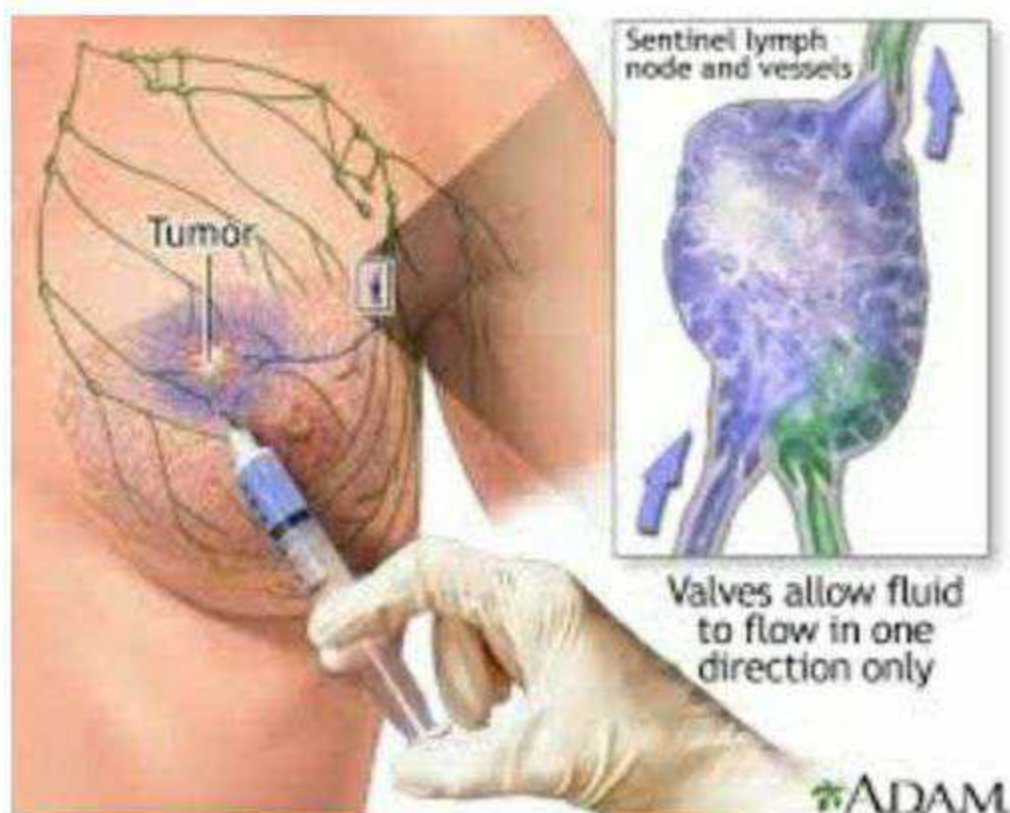
paget disease





paget disease

NAME THIS PROCEDURE AND GIVE
* ?THE ADVANTAGE OF IT



sentinal lymph node biopsy





sentinal lymph node biopsy

* NAME THIS SIGN AND DIAGNOSIS



nipple inversion peau d'orange...breast ca

WHAT IS YOUR DIAGNOSIS AND

* TREATMENT





Regarding eye sign in thyrotoxicosis, which is true in this picture?



Select one:

- ☒ a. Exophthalmos but no lid retraction.
- ☐ b. Severe lid retraction but no exophthalmos.
- ☐ c. Exophthalmos
- ☐ d. Unilateral lid retraction.
- ☐ e. Exophthalmos and lid retraction.

Question **14**

Answer saved



Question **18**

Answer saved

Marked out of 1.00

Flag question

The sign used for diagnosis?



Select one:

- ☒ a. Retrosternal goiter
- ☐ b. Superior vena cava obstruction
- ☐ c. Short neck with goiter
- ☐ d. Inferior vena cava obstruction
- ☐ e. Large goiter



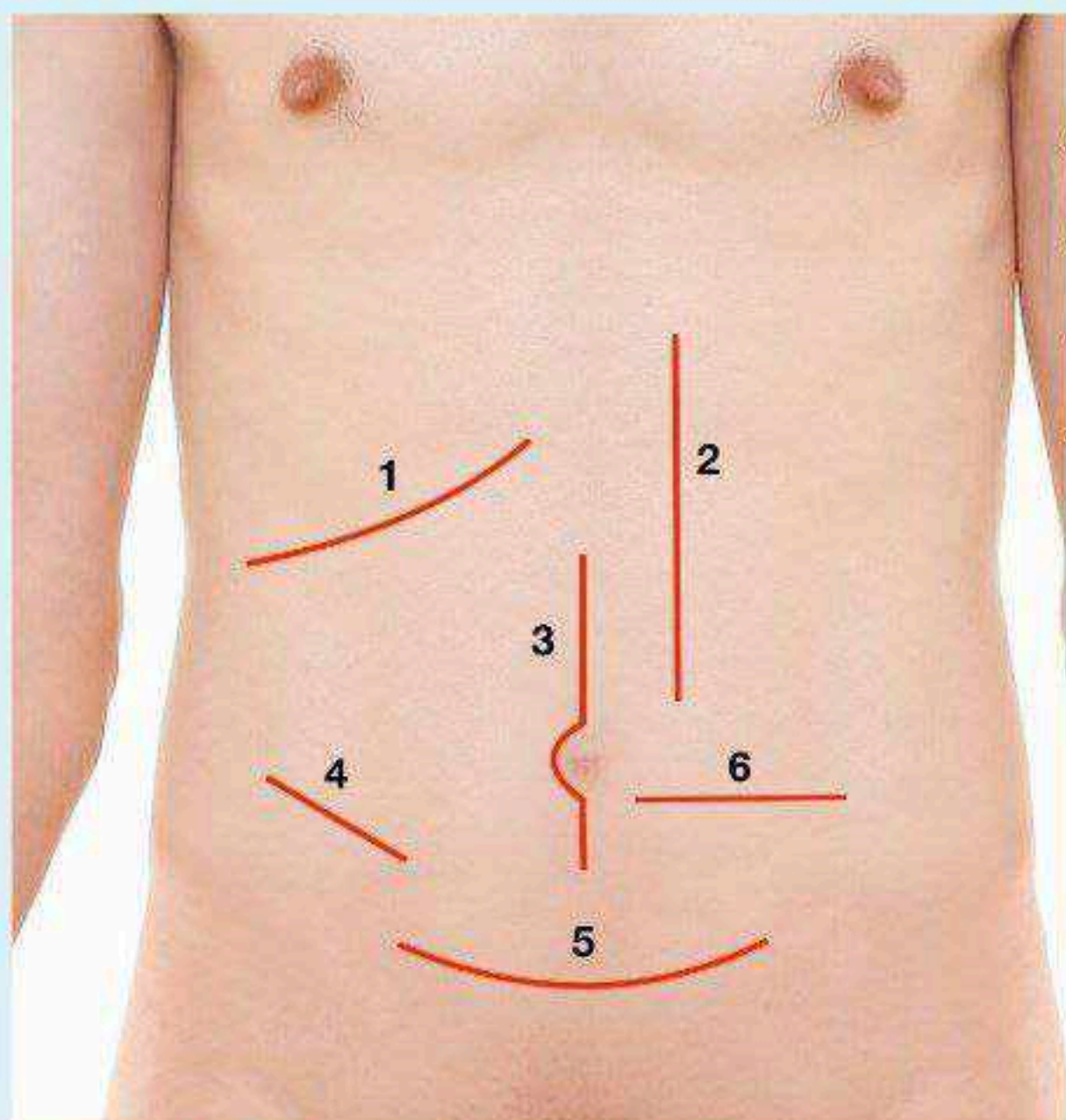
Regarding the surgical tool in the photo, all the statements are true EXCEPT:



Select one:

- a. Act by negative pressure
- b. Closed system drain
- c. May be closed by tissue
- ☒ d. Play a major role in abdominal surgery
- e. Decrease mobility

Incision number 5 is



used for the following except:

Select one:

- ☐ a. Ovarian surgery
- ☒ b. Appendicectomy
- ☐ c. Cesarean section
- ☐ d. Tubal ligations
- ☐ e. Bladder surgery



Regarding nipple discharge, all the following statements are true EXCEPT:



Select one:

- ☐ a. Bloody nipple discharge may be an underling malignancy
- ☒ b. Nipple discharge is usually associated with invasive cancer
- ☐ c. Pus discharge may indicated mastitis
- ☐ d. Purulent material in duct ectasia
- ☐ e. A galactoceles is a milk-containing cyst and occurs during or shortly after lactation

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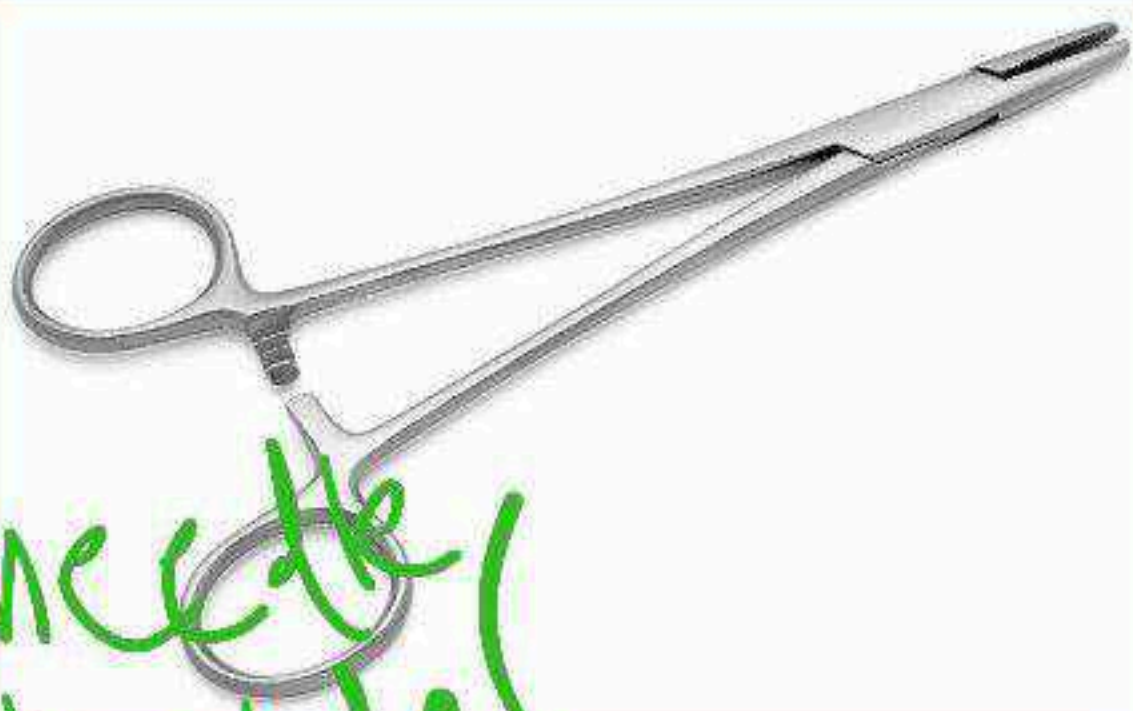
⋮



Answer saved

Marked out of 1.00

Flag question



name this instrument

Answer:

needle holder

Question 2

Answer saved

Marked out of 1.00

Flag question



Answer saved

Marked out of 1.00

Flag question

This sign is positive; the appendix is?



Select one:

a. Post ileal

b. Pelvic

c. Pelvic

d. Retrocecal

e. Per ileal

?

Question 20

Answer saved

Marked out of 1.00

Flag question



Marked out of 1.00

Flag question

The picture show examiner of the peripheral pulse point of foot the artery name?



Select one:

- ☐ a. Popliteal artery
- ☐ b. Posterior tibial artery
- ☐ c. Planters artery
- ☒ d. Dorsalis pedis artery
- ☐ e. Anterior tibial artery



statements are true EXCEPT:



Select one:

☒ a. An enlarged spleen appears below the tip of the tenth rib along a line heading towards the left iliac fossa

☐ b. Palpate the spleen with your fingers lying transversely across the abdomen

☐ c. You can make the spleen more prominent by lifting the lower ribs forwards with your left

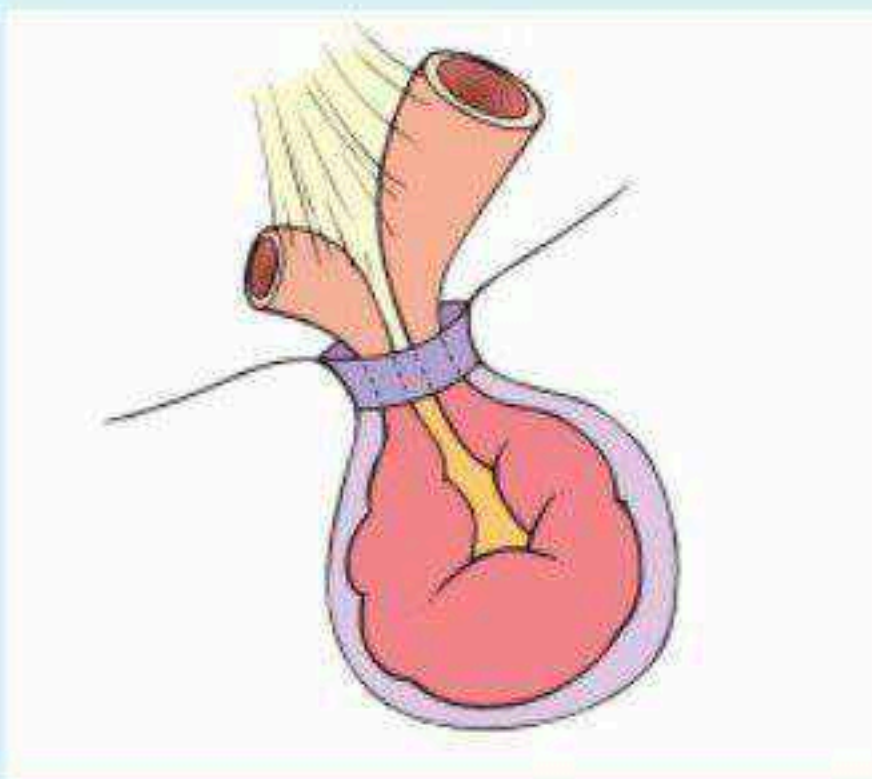
☐ d. Ask the patient to take a deep breath during splenic palpation

☐ e. A normal spleen is not palpable.

Bluetooth share: Sent palpatating the left kidney
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FIGURE 17

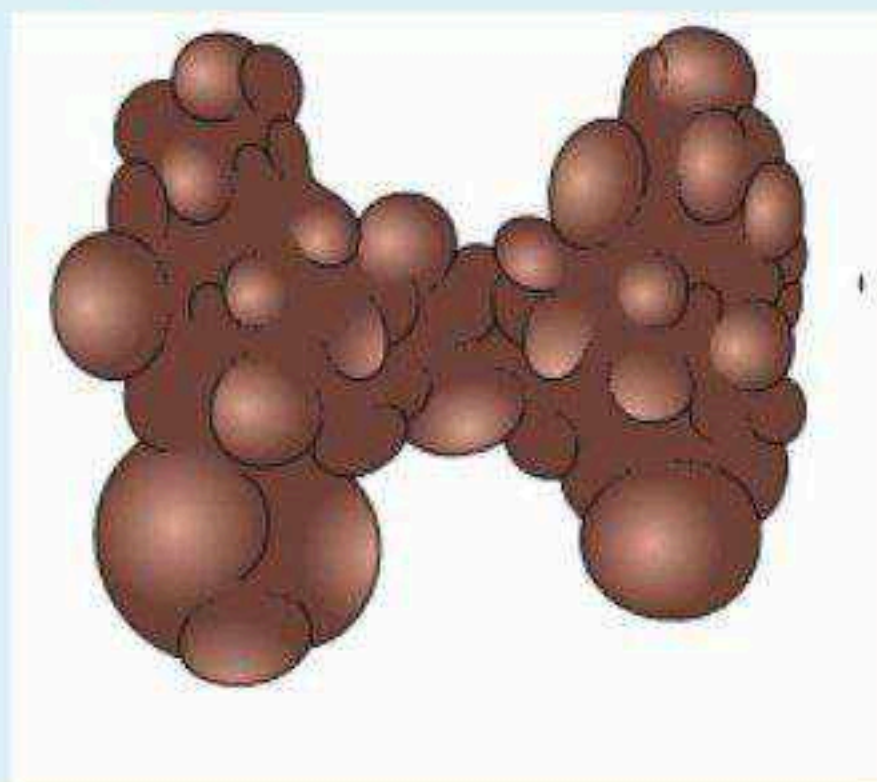


Select one:

- ☒ a. Incarceration The contents are fixed in the sac because of their size and adhesions. The hernia is irreducible but the bowel is strangulated
- ☐ b. A strangulated hernia The blood supply of the contents of the hernia is cut off.
- ☐ c. Neck of sac. This tight ring of peritoneum is usually the site of any strangulation
- ☐ d. Sliding hernia If the bowel which is normally extraperitoneal forms one side of the sac.
- ☐ e. When a loop of gut is strangulated there will also be intestinal obstruction.



Regarding type of thyroid disease which is true in the picture?



Select one:

- ☐ a. Normal gland
- ☐ b. An anaplastic carcinoma
- ☐ c. Multifocal carcinoma
- ☒ d. A multinodular goiter
- ☐ e. Grave s disease

Bluetooth share: Sent
Screenshot_2010-03-25-04-53-07.png

Previous page

Next page





Regarding the surgical tool, All the following indications to use EXCEPT:



Select one:

- a. Intestinal obstructions
- ☒ b. Fascial injury
- c. Decompress the stomach
- d. Monitor GIT hemorrhage
- e. Feeding



Regarding neck examination all the following statements are true EXCEPT:



Select one:

- ☒ a. The sternomastoid muscles only tilt the head
- ☐ b. Caused by the trauma of birth.
- ☐ c. As the patient grows, the lump disappears, and the abnormal segment of muscle becomes fibrotic and contracted
- ☐ d. The sternomastoid muscles rotate and tilt the head.
- ☐ e. Ischemic contracture of a segment of the sternomastoid muscle



Marked out of 1.00

Flag question



the picture

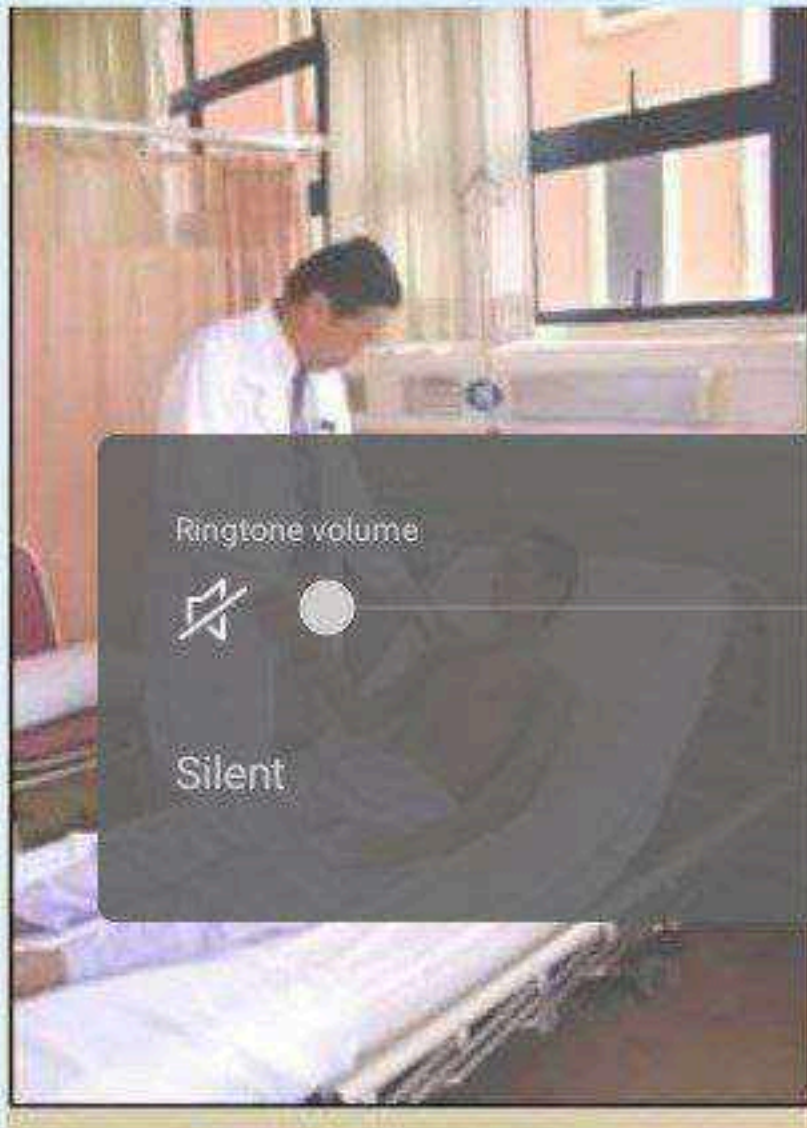
show a stoma bag post-anal carcinoma, diagnosis?

Select one:

- ☒ a. Ileostomy loop
- ☐ b. Colostomy end
- ☐ c. Double barrel type
- ☐ d. Ileostomy end
- ☐ e. Colostomy loop



All are mandatory needs in general physical exams, Except



Ringtone volume



Silent



Select one:

- a. Explanation
- b. Introduce
- c. Position
- d. Exposure
- e. Permission

